Protecting America's Farms, Families and Financial Strength:
A Strategic Plan for the Public Integrated Pest Management Enterprise[1]
2025-29

Pests cost America billions of dollars – hundreds of billions – every year. Invasive species and native insects and diseases damage and kill crops, hurting both farmers and consumers. Ticks and mosquitoes spread diseases that sicken families. Weeds degrade natural landscapes and fuel wildfires. Pests, therefore, are not an annoyance; they are significant agricultural, environmental and human health threats that must be managed. And they can be, through a science called Integrated Pest Management.

Integrated Pest Management, or IPM, creates smarter, safer and more sustainable solutions to our ever-evolving pest problems. As an "all-the-above" approach to controlling insects, plant diseases, weeds and other damaging pests, IPM leverages biology to combat pests rather than relying solely on the chemistry of synthetic pesticides. IPM emphasizes understanding the life cycles of pests and their natural enemies, along with the ecosystems in which both exist. It then combines biological, cultural, physical and chemical tools to control pests in the most efficient, economical and environmentally responsible way.

What is the Public IPM Enterprise?
IPM practices are developed and promoted by researchers and specialists at public universities, research labs and extension centers around the nation. This effort spans several scientific disciplines and hundreds of institutions, including 53 state and territory IPM programs and four Regional IPM Centers, primarily supported by the USDA's National Institute of Food and Agriculture through the Crop Protection and Pest Management program.

The distributed nature of public IPM programs has made coordination and long-term planning challenging. To address these issues, representatives from different institutions and regions came together to form the Public IPM Enterprise. This collective effort aims to unite our diverse institutions and create a roadmap for a future where IPM benefits reach every American. Our vision is: "A nation where everyone can access the integrated pest management information, tools and services they need to protect their health, home and livelihood."

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[1] How to cite the strategic plan: **NIPMCC 2025 Protecting America's Farms and Families: A Strategic Plan for the Public Integrated Pest Management Enterprise National IPM Coordinating Committee. https://escop.info/committee/nipmcc/**

The strategic planning effort began with a baseline survey to document the existing IPM infrastructure in 53 states and territories, followed by a SWOT analysis of American IPM. From these efforts, six strategic goals were identified, outlining specific actions to build on our core strengths, address weaknesses, and seize opportunities through new partnerships and innovations that can transform IPM in the future. While significant progress can be made without additional funding, realizing the vision of universally accessible IPM services will require further investment from public or private partners. The Strategic Plan for the Public IPM Enterprise outlines specific needs, tasks and priorities that can be addressed as those investments are made. The six strategic goals are:

- Provide Research and Extension Education to Protect People from Pests and Pesticides
- Deliver Timely and Relevant Information to Agencies, Stakeholders and Policy Makers
- Enhance Engagement and Collaboration
- Leverage and Share Resources
- Increase IPM Awareness
- Expand IPM Beyond Traditional Pest-Focused Disciplines

Provide Research and Extension Education to Protect People from Pests and Pesticides

Pest threats continuously change. Farmers grow new crops, invasive insects and plant diseases arrive on American shores and spread unchecked, pests attack new areas as weather or land-use patterns change, or they develop resistance to previously effective pesticides. To keep up with these evolving threats, continued investment in IPM research and education is essential. This includes validating lower-risk products developed by industry, updating best management practices for established IPM programs, reducing barriers to adoption, and documenting the economic and environmental benefits of IPM.

Key Actions:

- Secure ongoing funding for research on sustainable pest management, including validating lower-risk products.
- Enhance IPM strategies to address pesticide resistance, invasive species and shifting pest-ranges.
- Develop and promote safer pest-management practices in schools, childcare facilities, multi-family housing, and home-and-garden environments.

Evaluation Metrics:

- Number of funded IPM proposals focused on low-risk pesticides, pesticide resistance, antimicrobial resistance, and invasive species.
- Number of new or revived IPM programs promoting pest management in non-agricultural settings, such as schools, childcare facilities and residential environments.
- Participation and engagement in educational programs related to safer pest management in non-agricultural sectors.
- Feedback from stakeholders on the effectiveness and reach of IPM programs in protecting public health.

Deliver Timely and Relevant Information to Agencies, Stakeholders and Policy Makers

Agencies responsible for regulatory decisions related to pesticides, farm safety and environmental quality rely on accurate and timely information. Providing well-documented and current pest and pesticide-use data informs effective regulatory decisions and public policy. Reliable data also helps industry develop new products, investments and research initiatives.

Key Actions:

- Establish and maintain regional networks to provide expert analysis on proposed regulations.
- Support the creation and regular updating of Pest Management Strategic Plans.
- Inform and engage state and federal policy-makers on the economic, environmental and health benefits of IPM.
- Integrate IPM perspectives into broader environmental and health initiatives, such as One Health.

Evaluation Metrics:

- Number of expert comments submitted and archived in the national database on proposed regulations.
- Number of PMSPs completed, updated and used by EPA and OPMP.
- Number of federal and state policy-makers engaged through educational campaigns on the benefits of IPM.
- Frequency of IPM representation in broader environmental and health initiatives, such as One Health.

Enhance Engagement and Collaboration

The Public IPM Enterprise is one of several publicly funded initiatives dedicated to protecting American agriculture and communities. Strengthening collaboration across these programs enhances our collective efforts and better serves the public. This includes improving coordination within the Crop Protection and Pest Management

Program, enhancing inter-agency communication and developing stronger partnerships with state agencies and industry stakeholders.

Key Actions:

- Define and clarify the scope, roles and connections within the IPM Enterprise.
- Improve coordination and integration within the CPPM program, ensuring alignment between research (ARDP), extension (EIP), regional priorities, and Hatch Multi-state Working Groups.
- Strengthen partnerships with allied programs such as SARE, IR-4 and NPDN.
- Improve communication and collaboration among federal, state and university-led IPM-related entities.
- Improve networking and collaboration among IPM professionals and working groups.
- Expand community engagement by increasing participation from Master Gardeners, Certified Crop Advisers and others in IPM initiatives.

Evaluation Metrics:

- Network Growth & Collaboration – Number of members, collaborations, and organizations in the Connect networking database; new working groups or partnerships formed.
- Stakeholder & Administrative Engagement – Feedback from stakeholders and IPM Enterprise administration on scope, roles, and integration efforts.
- IPM Enterprise Framework – Completion and dissemination of a framework outlining scope and roles.
- Partnership Activities – Number of partnership activities, joint funding proposals, and collaborative projects with allied programs (SARE, IR-4, NPDN).
- Integration of Research & Extension – Number of collaborative projects integrating research (ARDP), extension (EIP), and regional priorities; alignment of EIP/regional proposals with CPPM RFAs.
- Publications & Outreach Materials – Number of joint publications and outreach materials developed across CPPM programs.
- Inter-agency Collaboration – Number of inter-agency meetings or working groups established or supported; adoption of standardized communication procedures.
- Communication Effectiveness – Stakeholder satisfaction with communication effectiveness, measured through surveys.
- Community Engagement & Participation – Number of Master Gardeners, Certified Crop Advisers, and other community members involved in IPM programs.
- Training & Impact Assessment – Number of community-based training sessions, workshops, or outreach events conducted, including participant feedback and knowledge gains.

Leverage and Share Resources

To strengthen IPM effectiveness, expand, organize, and promote publicly available resources. This ensures researchers, extension agents and stakeholders can easily access valuable IPM tools and educational materials to support informed decision-making.

Key Actions:

- Support and expand online resources such as the Crop Protection Network, MyIPM, AgPest Monitor, and other multi-state programs.
- Create a centralized directory of IPM resources to improve accessibility for professionals and stakeholders.
- Improve IT capacity to support data-sharing and collaborative research.

Evaluation Metrics:

- Number of online resources available and active participants in each program
- Usage statistics for IPM resources (views, downloads, links, etc.)
- Growth in engagement measured by new users, returning users, and geographic reach.
- Number of contributions or updates made to shared IPM platforms.
- Stakeholder feedback on resource accessibility and usefulness, gathered through surveys.

Increase IPM Awareness

Awareness of IPM principles is essential for people to adopt IPM practices. Clear and effective communication ensures that policymakers, farmers, educators, allied agencies and the pest-managing general public understand the benefits and applications of IPM.

Key Actions:

- Develop targeted campaigns to communicate the value and scope of IPM to diverse stakeholder groups.
- Create and maintain a repository of communication resources for IPM professionals.
- Coordinate annual outreach campaigns focused on priority IPM topics such as school IPM, urban pest management, and invasive species control.
- Leverage multiple communication platforms to broaden public engagement and awareness.
- Collaborate with media and industry partners to expand outreach and share success stories effectively.

Evaluation Metrics:

- Public engagement data, including media coverage, social media reach, shares and interactions.
- Number of resources added to the communication repository and their usage by IPM professionals.
- Participation levels in annual outreach campaigns measured by attendance at webinars, workshops, and related events.
- Number of new partnerships formed to expand IPM awareness efforts.

Expand IPM Beyond the Traditional Pest-Focused Disciplines

The continued success of IPM depends on a multidisciplinary approach that extends beyond the traditional pest sciences. Advancements in IPM will require contributions from economists, sociologists, engineers, AI specialists, automation experts and others. Involving professionals from these fields will improve IPM adoption, effectiveness and efficiency.

Key Actions:

- Integrate AI and automation into IPM decision-making tools to improve efficiency and precision.
- Strengthen collaboration between entomologists, plant pathologists, weed scientists with economists, communicators, evaluators and social scientists.
- Partner with engineers and data scientists to develop innovative pest monitoring and control technologies.
- Support interdisciplinary research to improve IPM accessibility and adoption across multiple fields and industries.

Evaluation Metrics:

- Number of interdisciplinary research projects supporting IPM advancements.
- Number of funded proposals that integrate IPM with precision agriculture or new technologies.
- Number of collaborations formed between pest management and non-traditional disciplines such as economics, social sciences and engineering.
- Level of engagement from non-pest-focused disciplines in IPM initiatives (e.g., participation in workshops, webinars, and meetings).
- Development and adoption rates of AI-based IPM tools or automated systems.
- Number of new technologies for pest monitoring and control developed through partnerships with engineers and data scientists.
- Stakeholder feedback on the effectiveness of new interdisciplinary IPM tools and technologies.
- Impact of interdisciplinary research on IPM adoption rates, measured through surveys and adoption statistics across sectors.

Conclusion

Through these strategic initiatives, the Public IPM Enterprise will better safeguard the American people, environment, economy and agriculture by reducing reliance on high-risk pesticides and promoting sustainable pest management practices across our nation's diverse landscapes. By expanding collaboration, innovation and interdisciplinary engagement, these efforts will build a more resilient and sustainable IPM system that can adapt to evolving challenges and ensure a healthier future for all.

How to cite the strategic plan:

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