



# Pesticide Safety Education with a Focus on the IPM Collaboration Team

2022 National IPM Coordinating Committee (NIPMCC)

October 18, 2022

**Tom Smith, Executive Director**

**Wayne Buhler, IPM Educational Facilitator**

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## IPM Collaboration Team Mission

...to identify and address educational needs and issues where IPM and Pesticide Safety education and outreach overlap.

The IPM CT is supported by US EPA cooperative agreement **X8-83927401** with Michigan State University titled 'Engaging All Stakeholders' for pesticide applicator certification, the Worker Protection Standard and pesticide safety education. The Migrant Clinicians Network (MCN) and the National Pesticide Safety Education Center (NPSEC) are sub-contractors under Michigan State University for the cooperative agreement.

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# Other Collaboration Teams

- Caribbean Island PSE
  - Puerto Rico – USVI Collaboration
  - Training resources in appropriate languages
- Farmworker
  - Worker Protection
- Pacific Island PSE
  - Interactive in-person and asynchronous Core training resources
  - Hawaii Worker and Handler WPS training videos
- Pollinator Stewardship
  - **Pollinator Superheroes** animated videos focusing on underserved populations including native tribes
  - (New Technologies in Agricultural Extension grant)
- Certification and Training Assessment Group
  - Label Mandated Training
  - On-demand and Webinar Training

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# IPM Collaboration Team Members & Meetings



- Dean Herzfeld, IPM PSE Facilitator/Organizer (2018-2021), Wayne Buhler, IPM PSE Facilitator (April 2021-present)
- PSEP Coordinators, IPM Coordinators, Regional IPM Center Leaders, U.S. EPA, NGOs, SLAs, Industry and Professional Associations
- Meet (1 hour) by Zoom videoconferencing every other week
- Basecamp collaboration platform

Part of our IPM  
Collaboration Team  
@ the 10<sup>th</sup>  
International IPM  
Symposium,  
Denver, CO.  
Feb. 28-March 3,  
2022



Left to Right,  
Shannah Whitthaus,  
UC Davis  
Lisa Blecker,  
CO State Univ.  
Wayne Buhler,  
NPSEC

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- There are a myriad of topics that we deal with in PSE—perhaps none is more central than IPM.
- IPM and PSE share many common goals, e.g., sustainability.
- The NIPMCC, Regional IPM Centers, and others are working on new terminology and a framework for IPM that is more accessible to learners and more effective for practitioners of IPM.
- The IPM Road Map (2018) specifies the need for PSE in IPM education, and a call for more money for PSE and IPM educational development.
- PSE offers IPM educators a captive audience of certified pesticide applicators seeking continuing education = keep their jobs.

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# Pesticidestewardship.org



Pesticide Environmental Stewardship

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## Pesticide Environmental Stewardship

The **Pesticide Environmental Stewardship (PES) Website** is sponsored by the Center for Integrated Pest Management. PES provides convenient access to information on proper pesticide handling. All subject matter contained on this site has been reviewed and posted by Pesticide Safety Education Program Coordinator Specialists from the Cooperative Extension Service. This website is intended for a national audience. State-specific information, where available. Crop producers, pesticide dealers, commercial/professional applicators, and the general public will benefit from the information presented in each topic, or module.

**Topic titles are listed in the sidebar on the left.** "Click" on the topic title to view the introduction. Upon clicking on the introductory page, a list of subtopics will appear below the topic title.

Resistance ⊕

Respirators ⊕

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Surface and Groundwater ⊕

Transportation of Pesticides ⊕

Wildlife Damage Management ⊕

Wildlife Protection ⊕

Worker Protection Standard ⊕

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# Wildlife Damage Management



This site was prepared by the PES IPM Collaboration Team and funded in part by the United States Environmental Protection Agency under assistance agreement X8-83927401 to Michigan State University.

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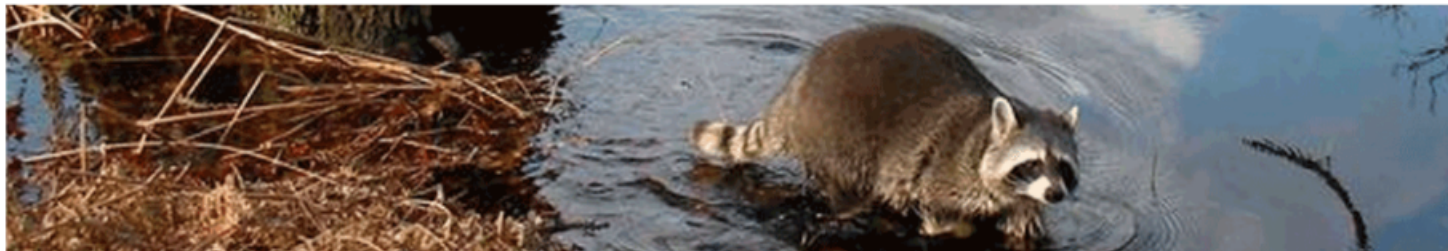
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*The information on this web page is from the **Wildlife Control Operator Professional Training Program** published by the **National Wildlife Control Training Program**.*



# Pesticidestewardship.org



## Wildlife Damage Management

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Squirrels, raccoons, foxes and other wildlife fascinate us. We watch them, provide habitat, and feed them—both intentionally and unintentionally. However, wildlife can also damage property, be a nuisance, and pose threats to human health and safety thus demonstrating a clear need for safe and effective management. This module will help you manage wildlife problems by developing solutions based on **integrated pest management** (IPM). IPM focuses on long-term prevention of pest problems through a combination of techniques such as biological control, habitat manipulation, exclusion, removal, and use of resistant plant varieties. IPM for wildlife is called Integrated Wildlife Damage Management (IWDM).

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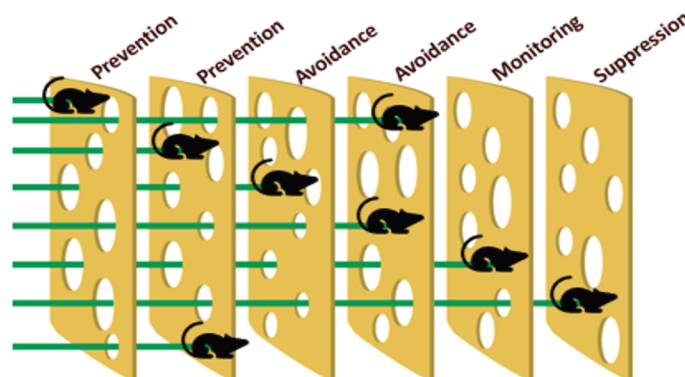
PAMS...

... Swiss  
cheese  
model

## Integrated Wildlife Damage Management

Successful wildlife damage management relies on the knowledge and use of multiple tools or actions. The acronym, **PAMS**, which stands for **P**revention, **A**voidance, **M**onitoring and **S**uppression, is an easy way to remember the actions you can take in integrated wildlife damage management.

The "Swiss cheese" model below depicts a PAMS approach for mouse control. (Note: you may use different tactics so don't view this as standard practice.) The first two slices represent **prevention** tactics such as: 1.) sealing holes or cracks (¼ in. or larger) to exclude mice from buildings, or 2.) installing brush-type door sweeps that block the gap between the threshold and door base. The two **avoidance** slices focus on making an area unattractive for mice, examples include: 1.) not allowing trash to accumulate directly outside the building, or 2.) moving trash bins further away from entrances. Regularly **monitor** areas mice are known to infest such as kitchens and pantries for signs of their presence (e.g., fecal pellets, seed and insect carcasses). Commercial pest managers may use non-toxic detection bait blocks or detect signs of gnawing on cardboard boxes. Snap traps, a common suppression tool, may be used for monitoring as well—catching one mouse may indicate that there are more. If further action is needed, **suppression** tactics such as an adequate number and arrangement of traps (e.g., twelve traps for 2-3 mice is not too many) should be used.



Redrawn from James Reasons' Swiss Cheese Model. [sketchplanations.com/the-swiss-cheese-model](http://sketchplanations.com/the-swiss-cheese-model)

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# Pesticidestewardship.org > Introduction to IPM



## Integrated Pest Management

[National Pesticide Safety Education Month](#) (+)

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**Integrated Pest Management** ▾

[What is IPM?](#)

[Why Practice IPM?](#)

[Pest Identification](#)

[The PAMS Approach](#)

[Monitoring](#) (+)

[Insect monitoring traps](#)

[Digital monitoring and decision tools](#)

[Suppression](#)

[IPM Resources](#)

[IPM Quiz](#)

**Integrated Pest Management**, or IPM, is a holistic approach for preventing or controlling pests in all arenas, including agriculture, schools, parks, homes, golf courses, and gardens.

IPM principles and concepts are not overly technical or complex, as they are commonly associated with best production and maintenance practices. If you're new to IPM, start small by adopting one or two practices you are most comfortable with and build from there. For example, you're employing components of IPM by selecting quality seeds of a locally-preferred plant variety and using mulch to prevent weeds in your garden.

In addition, IPM is "flexible" and can be molded to fit the preferences and values of the individual user. An organic grower or homeowner using organic lawn and garden practices can and should use IPM, but their values preclude the use of products and practices that are not certified organic. Likewise, fewer weeds may be tolerated in a person's front yard as opposed to the backyard.

This website presents the basic concepts of IPM and provides links to more detailed resources. Be sure to click on the links below, or in the navigation pane on left, and explore the information these pages provide.

1. [What is IPM?](#)
2. [Why Practice IPM?](#)
3. [Pest Identification](#)
4. [The PAMS Approach](#)
5. [Monitoring](#)

## Pesticidestewardship.org > What is IPM?



IPM is a science-based, decision-making process that:

- combines many different methods, or tactics, including cultural practices, biological control organisms, pesticides, pest-resistant plants, mechanical methods and physical barriers;
- identifies, manages and reduces risks from pests and pest management strategies;
- and, minimizes overall economic, health and environmental impacts.  
–paraphrased from “A National Road Map for Integrated Pest Management (2018)”

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## Pesticidestewardship.org > Why practice IPM?

- Prevent initial pest problems
- Keep the ecosystem intact and functioning
- Reliance on one tactic can be problematic
- Maximize effectiveness of control tactics
- Promote a healthy environment and good public image
- Conserve natural enemies
- Protection of soil health and crop production inputs



## Pesticidestewardship.org > Pest Identification

- Critical first step
- Distinguish non-living vs living agents
- Be aware of different physical forms
- Use a hand lens when needed
- Assistance from Cooperative Extension and Apps





## Pesticidestewardship.org > The PAMS Approach

- Practical implementation of IPM
- Monitoring and Thresholds
  1. Economics
  2. Health and Safety
  3. Aesthetics
  4. Public opinion
  5. Legal requirements
- Suppression tactics (cultural, physical, biological and pesticides)
- Follow up assessment



## Pesticidestewardship.org > IPM Resources



Areawide Pest Monitoring and Decision Support Networks:

- [Corn ipmPIPE](#) – Southern Corn Rust, Tar spot of corn, Corn earworm, Black cutworm, Fall Armyworm, True Armyworm
- [Soybean ipmPIPE](#) – Soybean Rust
- [Pecan ipmPIPE](#) – Pecan nut casebearer
- [Cucurbit Downy Mildew ipmPIPE](#)
- [Basil Downy Mildew](#)
- [AgPestMonitor](#) – supporting pest monitoring around the country through the IPM Centers
- [EDDMapS](#) – Invasive species

Links to sites of each of the four **Regional IPM Centers**. The regional sites contain links to state extension programs with up-to-date information and current IPM research projects.

- [North Central IPM Center](#)
- [Northeastern IPM Center](#)
- [Southern IPM Center](#)
- [Western IPM Center](#)

The NSF-founded [Center for IPM](#) supports the [pesticidestewardship.org](#) website.

# What's Around the Corner?



- New Technologies in Agricultural Extension (Extension Foundation grant)
- Work with mentors and key informants
- Amplify messaging for IPM adoption through multimedia



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## Contact us:



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