

Title: IPM Displays for the Public¹
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B. Nontechnical Summary

More than 75% of American households use pesticides; while relatively few people are aware of IPM and how to use it. To teach the public about IPM in an exciting way, we created two interactive IPM exhibits for public places. The first, a dollhouse called the “Pest House,” allows visitors to find and correct ten pest problems. The second, “Mosquito Pinball,” encourages visitors to earn points every time a mosquito-thwarting practice, such as emptying sources of water or wearing repellent, is accomplished.

To provide users with additional information, we wrote and produced ten “pest information cards,” shaped like bookmarks, that accompany the Pest House display; two other publications accompany the Mosquito Pinball. Both displays were hosted by the local Ithaca Science Center, which receives up to 80,000 visitors annually. In 2005, we marketed the exhibits to audiences in the Northeast via direct mailings and contacts, and displayed the exhibits at the NE IPM Regional Conference in Manchester, NH. We estimate that thousands of citizens of the Northeast have become more aware of IPM and how to practice it because of interaction with these exhibits and use of the accompanying educational materials.

C. Introduction

More than three-fourths of American households use pesticides. According to the Environmental Protection Agency, about 80 million pounds of conventional-pesticide active ingredients were applied to homes and gardens in the United States in 1999 (EPA, 2002). A recent survey of urban apartment dwellers by the New York State Attorney General’s Office found that, statewide, 69% of respondents applied pesticides in their own homes and 33% did so at least once a week (Surgan et al., 2002).

IPM has been identified as an underutilized pest control approach. Despite the current lack of understanding of IPM, studies indicate that citizens are interested in pesticide alternatives and willing to learn more. In a recent New York State survey, only 17% of 800 respondents knew what IPM was—but once IPM was explained, 55% stated that they would prefer IPM as the method of pest control in their own homes (Cornell University Survey Research Institute, 2006). In addition, the majority of respondents felt IPM should be practiced in schools (63%), on golf courses (62%) and in municipalities (69%). According to a homeowner survey in Montana (Lajeunesse et al., 1996), 43% of those surveyed were “very interested” and another 38% “somewhat interested” in learning more about least-toxic methods of pest management.

¹ This is the final report submitted to the funder, the NE IPM Center.

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They considered the most effective methods for learning to be printed materials, hands-on participation, educational videos, and demonstrations by specialists.

With the exception of excellent initiatives in Pennsylvania, Community IPM outreach in the Northeast generally has not focused on interactive displays for the public. More exhibits that encourage viewers to explore, interact, alter, and learn would be a great asset. To meet this goal, we built two interactive IPM displays (a “pest house” and a “mosquito pinball game”) that help people learn about IPM in their homes and communities. This project addresses some of the priorities developed in 2003 by the Northeastern Pest Management Center’s Community IPM Work Group http://nepmc.org/cwg/community/Priorities_oct03.html and those set by USDA–CSREES:

- Priority #2: Develop outreach to homeowners, retailers of homeowner pest management products, and multipliers (e.g., libraries, teachers).
- Priority #8: Outreach on wildlife pest management, including landscaping do’s and don’t’s.
- Objective 5.2 (of national priorities): Increase the capacity of communities, families, and individuals to improve their own quality of life.”

D. Objectives

1. Build two interactive IPM exhibits for displaying at indoor public places: one that emphasizes basic IPM concepts, and another that features biological control.

Outcome: A Pest House exhibit and a Mosquito Pinball Machine were created.

2. Deliver a hands-on program about IPM to audiences at the Sciencenter.

Outcome: Delivered April 2005.

3. Reprint an introductory IPM brochure (*Get the Bugs Out*, NYS IPM 2003) and provide it with the IPM exhibits, to point audiences to more IPM information.

Outcome: Accomplished.

4. Distribute information about the exhibits and create web-based versions of the brochures to New York and Northeast audiences so that others may view them and increase their practice of IPM.

Outcome: Accomplished.

E & F. Approach and Progress

1. To teach the public about IPM in an exciting way, we created two interactive IPM exhibits for public places. The first, a dollhouse called the “Pest House,” allows visitors to find and correct ten pest problems using IPM solutions. Each problem, such as branches too close to the house or food left on counters in the kitchen, can be rectified by moving a part that resets itself when the visitor is done. This display combines two over-arching concepts—pest problems and IPM solutions—into one exhibit. We created a shipping box (which also functions as a display table) for the display and added a specialized brochure rack that holds the pest information cards.

The second exhibit, “Mosquito Pinball,” is a game that encourages visitors to earn points every time a mosquito-thwarting practice, such as emptying sources of water or wearing

repellent, is accomplished. Two publications, *Get the Bugs Out—Safely*, an introductory IPM brochure from the New York State IPM Program, and *What’s all the buzz about mosquitoes?* accompany the Mosquito Pinball.

Both displays were hosted by the Ithaca Sciencenter, a not-for-profit museum located in Ithaca, NY, that receives up to 80,000 visitors annually. Sciencenter education program managers and exhibit designers reviewed our ideas, made suggestions for prototype exhibits, created prototypes, and tested those prototypes before producing final exhibits.

We wrote, designed, and produced ten “pest information cards,” shaped like bookmarks, that accompany the Pest House display to provide exhibit visitors with useful written information. These are individual, double-sided bookmarks on ten pests: bats, mice, kitchen moths, ants, carpenter ants, mold, mosquitoes, raccoons, squirrels, and houseflies. The cards fit into the Pest House display rack and provide visitors with additional information. Three thousand copies were printed and have been used to accompany the display and in media packets and school curricula kits to advertise the availability of the exhibits.

These exhibits have been used in numerous public outreach events and classroom settings in NYS and beyond, including but not limited to those listed.

Date	Event/Venue	Location	Audience	Contact #'s
2004	Sciencenter	Ithaca, NY	Children and adults visiting Sciencenter (which has ~80,000 visitors/yr.)	potentially thousands
03/15-16/05	NE IPM Conference	Manchester, NH	Teachers, Educators, Extension Associates, Univ. Faculty, Graduate Students	25 direct, more indirect
5/14/05	NYS IPM Exhibit & Interactive Displays	Providence, Rhode Island	General public, faculty, growers, landscapers	2500 visitors total. >372 to pest house
7/20/05	NYS IPM Education Initiative Exhibit	NY State Ag. Expt. Station, Geneva, NY	NACAA (National Association of County Agricultural Agents)	47
8/9-11/05	Empire Farm Days	Seneca Falls, NY	Growers, producers, general public	Direct contact with >400 children and >360 adults
8/20-8/21/05	Whale Watch Festival	Geneva, NY	General Public	Direct contact with >200 children and >100 adults

2. Delivered a hands-on program about IPM to audiences at the Sciencenter.

An interactive play, titled “the world beneath our feet” was conducted with Sciencenter staff, and visitors (children and adults) in April of 2005.

3. Printed and distributed brochures.

We reprinted the IPM brochure, *Get the Bugs Out—Safely*, and have been displaying it with the Pest House exhibit. *What’s all the buzz about mosquitoes* is a comprehensive brochure that accompanies the mosquito pinball exhibit.

4. Distributed information about the exhibits.

The displays were marketed to IPM colleagues in the Northeast via a mailing, and display at the NE IPM Regional conference in Manchester NH in March, 2005—a major venue for information sharing with colleagues in the northeast. Descriptions and pictures of the exhibits are listed at http://www.nysipm.cornell.edu/teaching_ipm/exhibits/default.asp.

G. Results

Dwell time and IPM knowledge acquisition

Dwell time and knowledge acquisition surveys were conducted for both displays. For the pest house, 51 participants surveyed spent an average of 6.5 minutes at the display, over half took info cards, and all reported that they had fun. Eighty-eight percent of respondents said they would tell someone else about the exhibit, 85% said they found helpful information with the pest house, and two thirds indicated they knew something about IPM after visiting the exhibit as opposed to less than one third before visiting.

For the mosquito pinball, 13 participants surveyed spent an average of two minutes at the display, half took info cards, and gave an average score of 8 out of 10 (10 being lots of fun) when queried whether they had fun. Seventy five percent of respondents said they would tell someone else about the exhibit, and 77% said they learned something about IPM from either the pinball game or accompanying activity book. The dwell time for both exhibits exceeded what we considered the acceptable minimum of 30 seconds.

Practicality of the display

The pest house has been a great success in its ability to attract attention and interaction, and to teach IPM, as shown by the surveys. It was built with a sturdy case that is used for packing, carrying and shipping, and also as a display table for the house. However, we encountered several logistical problems—most of which could be solved in future recreations of a pest house.

1. *It was costly to build.*

Now that a prototype exists, future models should not incur any design costs, and less expensive building materials could hopefully be used.

2. *Parts broke off*

Slight modifications would lessen the vulnerability of a few parts that stick out.

3. *The entire unit is very heavy and large*

The packed house cannot be transported in most cars, a van or truck is usually required.

The heavy weight and large size also make shipping very expensive. Future models should be designed from lighter weight materials and built to break down into a more compact form.

The pinball machines were less complicated. They were purchased ready-made, and a new game background was designed and laid over the original. However, there were a few technical problems when the placement of the new background caused malfunctions of some flippers. These were mostly overcome, making the pinball machine a useful and easy to transport interactive learning exhibit.

H. Impacts

- Thousands of people in the northeast have interacted with our IPM displays. Our surveys show that approximately two thirds of the people interacting with the displays and/or reading the accompanying literature or activity, learn more about IPM.
- Risk is reduced when more people practice IPM in their homes and communities.
- IPM educators, school teachers, and numerous community outreach organizations have new tools for extending practical IPM information.

I. Appendices

Pest information cards and photos of exhibits have been submitted to NE IPM previously, and the two exhibits can be viewed at http://www.nysipm.cornell.edu/teaching_ipm/exhibits/default.asp. The *Get the Bugs Out—Safely*, and *What's all the buzz about mosquitoes* brochures can be viewed on our website at <http://nysipm.cornell.edu/publications/brochures.asp>. All materials will also be supplied by request.

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