



Integrated Pest Management

Museum Starter Kit

for Montana & Wyoming Museums



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INTRODUCTION

Why do museum professionals need integrated pest management?

You need accurate and current information to monitor and manage pests that cause damage to irreplaceable artifacts.

What is integrated pest management?

IPM strategies are rooted in agricultural practices that manage pests using a variety of techniques to provide optimal grower profitability and sustainable pest management, while considering environmental and human health risks. The IPM approach uses four basic steps, Identification, Monitoring, Control and Evaluation, to achieve results that can save time and money, compared to other pest management strategies, and particularly compared to having no pest management at all.

The Museum IPM Program

The MSU Extension Service Integrated Pest Management (IPM) program, in collaboration with MSU Museum of the Rockies, Grant Kohrs Ranch, Rocky Mountains Cooperative Ecosystem Studies Unit provides Montanans with research-based information for implementing a pest management program designed for the specialized needs of museum collections. The program consists of general information about IPM concepts, insect identification aids and options for monitoring and controlling pests that are unique to the museum environment. It offers a variety of timely, relevant resources and information and provides a forum where museum professional can exchange of pest management strategies.

The Museum IPM program can help you select and integrate pest control strategies into your museum operation, based on the results of timely monitoring. The program also considers other factors important in pest management decision-making, including environmental, ecological and sociological consequences.

A little monitoring over a long time is more effective than a lot of monitoring for a short time.

IPM is a socially acceptable, environmentally responsible and economically practical scientific process. Establishing a well conceived IPM plan can provide a very effective means of control for many years to come, and provides practical, cost-effective pest control alternatives for museums of all sizes. An IPM plan can be adapted to fit your museum's unique mission and can be as simple or complex as time and resources permit. IPM involves three steps: Identification and monitoring, control and evaluation.

Monitoring: Are they pests or guests?

The first step in implementing IPM practices involves identifying and monitoring to determine if your museum serves host to harmful pests or merely guests. Pests are defined as any animal or insect that detracts from a museum's mission by damaging collection items or making locations unsuitable for work or visitors. Guests, on

the other hand, may be residents but not cause damage or inconvenience, so they are typically tolerated.

There are always reasons behind every pest infestation: In order to become a problem, pests must have some form of access point as well as food, water and shelter. Discovering why pests are present requires accurate identification and knowledge of their biology, abilities, habitats and limitations. Monitoring involves measuring pest concentrations and other conditions over time to determine when, if ever, further action is necessary. *A little monitoring over a long time is more effective than a lot of monitoring for a short time.*

Control: Knowledge is power

Both indirect and direct measures affect pests. For example, making the environment inhospitable to pests (through moisture control, for instance) is an indirect control measure that can be effective. A flyswatter, on the other hand, is an example of a direct measure – one which actively removes pests. Information gathered during

monitoring and identification can help identify which types of controls are the most effective in a given situation. A fundamental concept of IPM is to reduce the pesticide load on the environment by basing control decisions not on the calendar but on pest population, biology and damage.

Evaluation: What works and what's important?

Evaluation of identification and control activities determines the success of controls, notes cost-benefit ratios and directs future pest management activities. Each Museum IPM program must take into account the fine line between allowing access to museum items and preventing damage. Will pests compromise a museum's mission or will controls compromise the museum mission instead? A fully integrated pest management plan means effective time and money management freeing resources to concentrate on the museum mission.



USING THE KIT

Using Your IPM Museum Starter Kit

Watch the Video

This kit is designed for use with the instructional video, “IPM for Montana and Wyoming Museums.” View the video for detailed information about setting up an IPM program for your Museum and for tips on accessing the MSU Diagnostic services.

Use the Kit

In this kit you will find samples of materials you need to get started on monitoring, identifying and controlling pests and evaluating your Museum pest management strategies.

The Kit Includes:

Monitoring/Identification Tools:

- Instructions for Packaging and Mailing Specimens
- Master IPM Trap Records Sheet
Use this copy as a master

Traps and specimen vials

- 5 Clear Collection Vials
- 5 Opaque Submittal Vials
- Assortment of Sticky Traps (1 sheet of each size)

Control Aids:

- No Food or Drink Sign
Use this copy as a master

Other Resources:

- Supply Sources, Safety Equipment etc.
- Helpful Internet Resources
- Helpful Print Resources
- Hantavirus Fact Sheet

Follow submittal instructions

Museum pest diagnostic services are offered to Montanans for the price of postage and packaging. By reading and using the specimen submittal guidelines listed on page 5 of this publication, you will speed up the process by which you'll receive identification and recommendation information.

SPECIMENS



Specimen Submission Instructions

1. For hard or soft-bodied insects, a suitable container is water tight and strong enough to survive crushing either in the mail or courier service. For example, film canisters of the type the lid fits inside the rim of the container are good. These can be obtained at drug stores and film developers. The best container is a sturdy screw top glass or plastic vial that can be obtained from laboratory supply companies.
2. Submit specimens in a full vial of rubbing alcohol. This can be found in the pharmacy aisle of any supermarket.
3. Send live or properly preserved specimens whenever possible. Accurate identification often depends on careful examination of a complete preserved specimen, for example, wing venation, antenna and hairs are identifying characteristics that can make the difference between expensive controls and none at all. If the insect is capable of flight, please note with a warning label (it could save the diagnostician from a chase through the lab).
4. Get the material to us as quickly as possible. (Insects that have fermented over a hot weekend may acquire characteristics that make them more difficult to identify.) Our policy is to phone, fax or e-mail identification and control recommendations for damaging pests.
5. Note where and under what conditions the specimen was found. For example, floor plans highlighting the specimen's location can provide valuable clues to what is causing infestations.
6. Please make sure to include your complete contact information.
Mail specimens to:
Will Lanier
Insect Identification
119 AgBioScience Facility
P.O. Box 173150
MSU Bozeman, MT 59717

NO FOOD OR DRINK



Protect Our Exhibits!

Integrated Pest Management Museum Program

IPM Trap Record Database Form

Room / Trap number: _____ Room Name: _____

Details: _____

Date Set: _____ Date Removed: _____

Status: _____ (Status Codes: N = Nothing, : C = Casual Invader, : P = Pest)

Content Description / Observations: _____

Room / Trap number: _____ Room Name: _____

Details: _____

Date Set: _____ Date Removed: _____

Status: _____ (Status Codes: N = Nothing, : C = Casual Invader, : P = Pest)

Content Description / Observations: _____

Room / Trap number: _____ Room Name: _____

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Room / Trap number: _____ Room Name: _____

Details: _____

Date Set: _____ Date Removed: _____

Status: _____ (Status Codes: N = Nothing, : C = Casual Invader, : P = Pest)

Content Description / Observations: _____



RESOURCES

Further Resources

Material Supply Sources

Safety Equipment

Gempler's: 1-800-382-8473 (U.S.A. and Canada); 1-608-662-3301 (outside U.S.A. and Canada): www.gemplers.com

Traps

Sticky Traps usually can be purchased at hardware stores or pest control suppliers, or they may be ordered from national suppliers. Mail order sources include:

The Trapper (can be used flat or pup-tent shape); available from Pest Control Supplies, P. O. Box 025665, Kansas City, MO 64102

Mr. Sticky (pup-tent shape) available from LTP, Inc., 7 Beach Street, Mt. Vernon, NY 10550; (914) 699-5000 and Zone Monitor (pup-tent shape)

Catchmaster (pup-tent style unit with a scent attractor and perforations that allow it to separate into 3 parts) available from Brody Enterprises, 9 Arlington Place, Fair Lawn, NJ 07401; (800) 458-8727

Recon Professional Monitor (box-style motel) available from Protos Corporation, P. O. Box 2236, Cambridge, MA 02238.

Internet Resources

Pesticide Information:

<http://www.epa.gov/pesticides>

Program and Emergency Information:

Integrated Pest Management at Montana State University:
<http://ipm.montana.edu>

Print Resources

Common Sense Pest Control, Least-toxic solutions for your home, garden, pets and community. Olkowski, William, Daar, Seila, and Olkoski, Helga Taunton Books and Videos. ISBN: 0-942391-63-2

Handbook of Pest Control, The Behavior, Life History and Control of Household Pests, 7th ed. Mallis, Arnold. Franzak & Foster Co. ISBN: 0-942588-00-2

Hantivirus: What is it and what can be done about it? (enclosed) Montana State University Extension MontGuide Fact Sheet #199404; <http://www.montana.edu/publications/>

Disclaimer

This information is for educational purposes only. Reference to commercial products or trade names does not imply discrimination or endorsement by the Montana State University Extension Service.

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