

**IPM CURRICULUM FOR WAREHOUSE STAFF**  
**LOW-RISK INTEGRATED PEST MANAGEMENT TRAINING**

William and Jean Currie, International IPM Institute

**INSTRUCTION UNITS IN THIS LESSON PLAN:**

1. The IPM policy, what it does, what not to do, roles in policy implementation, how to activate pest management help, expectations of Pest Management Technicians.
2. Problem pests – identifying those that are the result of incidental entry vs. those that are the result of a true infestation.
3. Identification of conditions that permit incidental entry and preventative steps for future use.
4. Identification of the signs of infestation in incoming products.
5. Methods of preventing infestations in storage areas.
6. Proper procedures for sanitation in warehouse storage areas.
7. Understanding the inspection process and the need for good record keeping.

**PERFORMANCE OBJECTIVES:**

Unit #	Objective of Performance	Importance	Learning Difficulty
1	Know the IPM policy, understand roles in the policy, and know how to activate help to manage pests.	Very Important	Moderate
2-7	Provide staff with technical information and resources to identify and evaluate pest problems.	Important	Moderate

**KEY:**

**IMPORTANCE:**

Very important, important, not too important

**OBJECTIVE OF PERFORMANCE:**

Must know, be familiar, have knowledge, understand, perform, Demonstrate, etc.

**LEARNING DIFFICULTY:**

Difficult, Moderate, Easy, Moderate to Very Difficult

## WAREHOUSE STAFF LESSON PLAN

PREPARATION DATE: April 21, 2008

PREPARED BY: William E. Currie

UNIT OF INSTRUCTION: Low-risk IPM Policy Implementation

TITLE OF LESSON: Policy, roles, pest management help, incentives and benefits of IPM.

INSTRUCTIONAL OBJECTIVE: Know the low-risk IPM policy, their role in implementation and how to get pest management help. Become familiar with common pests, readily recognize points of entry. Know the signs of infestation. Understand the benefits of proper storage and sanitation procedures. Know how to be your own inspector.

TIME ALLOTTED FOR LESSON: 2.5 hours  
METHOD OF INSTRUCTION: Lecture, guided discussion  
INSTRUCTIONAL RESOURCES: Manual, PPT, slides  
A/V EQUIPMENT: Flip chart, PPT, slide projector, screen

GENERAL PLAN OF PRESENTATION: Discuss the IPM policy, its development and features. Attendees will understand roles in implementation and how to get pest management help. Learn to recognize accidental invaders versus pests capable of infesting facilities. They will learn to not only recognize the points of entry but to constantly watch for signs of structural depreciation. Attendees will understand reporting procedures, learn the signs of infestation by cockroaches, flies and rodent pests. Review the proper storage and sanitation procedures and learn what the inspector looks for during an inspection.

INTRODUCTION: Names and roles of instructors, student introductions. Why are we here? Why are we here? Why an IPM policy? What's different? Implementation of the low-risk pest management policy.

### EXPLANATION/APPLICATION/PRESENTATION:

1. The IPM policy, IPM defined, Precautionary Principle, approved list of products, notification, posting, emergency approval, training. General staff do not use pesticides (only licensed Pest Management Technicians). Staff roles, observation and reporting. Expectations from Pest Management Technicians and maintenance actions.
2. Identify the following:  
Problem pests: which are "casual invaders" and which are capable of infesting a storage space.  
Entry points  
Signs of infestation: in incoming and existing supplies  
Proper storage procedures  
Proper sanitation: Food issues, repairs, possible added effort to eliminate harborage due to clutter.
3. The importance of proper inspection to maintain the integrity of sanitation. Understand monitoring for pests. Know the importance of proper record keeping. Know how to perform a thorough inspection.

CONCLUSIONS/SUMMARY: Low-risk pest management requires dedication and may be tedious and time-consuming when performed correctly. A thorough understanding of why such procedures are so important frequently imparts a degree of significance to even the most mundane task. You have an important role in excluding pests and reporting pest evidence you observe. Implement the low-risk pest management policy in storage warehouses.

WAREHOUSE STAFF LESSON PLAN UNIT ONE

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Policy, Roles, How to Activate Pest Management Help  
 UNIT OF INSTRUCTION: Unit 1: Lecture, PPT or Slides – 30 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Policy, history, implementation	Lecture	Easy
2	What's different, IPM definition, do's, precautionary principle, approved product list, notification, posting, emergency approval, training	Lecture	Moderate
3	Don'ts, only licensed Pest Management Technicians apply pesticides, remove harborage (clutter), no BAN, phase out pesticides over time	Lecture	Difficult
4	Roles, sanitation, no food, pest-proof food storage, eliminate clutter, observation and reporting, teach others	Lecture	Moderate
5	Reportable conditions, pest sighting, pest evidence, droppings, gnawings, webbing, fecal focal points, scattered trash, etc.	Lecture, PPT, Slides, Display	Difficult
6	Warehouse Supervisor, point of contact, may examine situation, call to report, information directed to appropriate office	Lecture	Easy
7	Expectations, PMT responds, emergencies that day, thorough inspection and monitoring	Lecture, Demonstration (monitors, traps)	Easy
8	Low-risk pesticide application, follow-up, repair structural defects, prevent pest access	Lecture	Easy
9	Basics of IPM: exclusion, sanitation, habitat modification, inspection, monitoring, low-risk pesticides, records	Lecture	Difficult

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
 METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

WAREHOUSE STAFF LESSON PLAN UNIT TWO

COURSE DESCRIPTION: Low-risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Problem Pests  
 UNIT OF INSTRUCTION: Unit 2: Lecture, Guided Discussion, Group Performance – 15 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Indoors there is less tolerance for critters. Unwanted critters are pests. Pests need air, water, food, shelter, temperature, light.	Lecture, PPT	Easy
2	List pests: ants, birds, bats, cats, cockroaches, flies, mice, rats, bacteria, virus, molds, wasps, bees, spiders, etc.	Guided Discussion, Group Input, List on Flip Chart	Easy
3	From list, determine level of importance: emergency, urgent, routine, non-essential	Guided Discussion, Group Performance	Moderate

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
 METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

WAREHOUSE STAFF LESSON PLAN UNIT THREE

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Recognize Possible Points of Entry for Outside Pests  
 UNIT OF INSTRUCTION: Unit 3: Lecture, Guided Discussion – 15 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Learn to recognize points of entry for storage pests: 1. the most obvious is missing or poorly installed/ maintained door sweeps and screens. 2. holes in walls. 3. cracks and crevices. 4. drains, etc.	Lecture, Guided Discussion, List Outdoor Pests and Entry Points	Easy
2	Once these sites have been identified, the proper procedure must be followed. Notify Warehouse Supervisor, proper record keeping to aid in the evaluation of the problem. Routine inspection should also be conducted to maintain structural integrity.	Lecture, Guided Discussion, Who does it? Procedure to get help.	Easy

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
 METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

WAREHOUSE STAFF LESSON PLAN UNIT FOUR

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Recognize the Signs of Infestation  
 UNIT OF INSTRUCTION: Unit 4: Lecture, Guided Discussion – 15 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Become familiar with the signs of infestation in stored food products or other storage. 1. pin-sized holes in packages. 2. spillage from damaged packages. 3. webbing and frass from moth larvae. 4. actual presence of pests such as beetles, moths, psocids or mites. 5. gnaw marks, urine stains or odors, droppings from rodents. 6. water and moisture damage or the odor of mold spores that could signal mite or psocid infestation.	Lecture, Samples, PPT, Guided Discussion, List Signs of Infestation	Moderate
2	Become familiar with those pests that are the result of an infestation within the storage area: beetles such as drugstore, cigarette, red-flour and confused beetles, moths such as the Indian meal moth, psocids and grain mites. Also cockroaches, ants, flies and rodents that harbor within the facility.	Lecture, Specimens or PPT	Easy

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
 METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

WAREHOUSE STAFF LESSON PLAN UNIT FIVE

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Inspection of Deliveries and Proper Storage Procedures  
 UNIT OF INSTRUCTION: Unit 5: Lecture, Guided Discussion – 15 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Prevent the introduction of infesting pests through thorough inspection for signs of infestation, quarantine and return of damaged or infested items, proper record keeping.	Lecture	Moderate
2	Review the proper procedures for stored products: FIFO, good sanitation (keeping walls and floors clean), thorough and routine inspection to quickly identify possible problems (looking for signs of infestation), and good record keeping.	Lecture, Guided Discussion	Moderate

3	What pests can become an infestation? Rats, mice, flies, cockroaches, gnats, termites, silverfish. Manage them by preventing access to water, food and shelter; through exclusion, sanitation and habitat modification.	Lecture, Guided Discussion	Moderate
---	---	----------------------------	----------

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

#### WAREHOUSE STAFF LESSON PLAN UNIT SIX

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
SUBJECT MATTER: Proper Sanitation Procedures  
UNIT OF INSTRUCTION: Unit 6: Lecture, Guided Discussion – 30 minutes

#### INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Good sanitation means thorough removal of anything pests consider as food. This means crumbs and small particles in corners of floors, spilled food from damaged containers, damaged bulk containers that permit pest entry, dirty floors, etc.	Lecture, Guided Discussion, List Potential Food Sources	Moderate
2	Moisture is necessary for many pests to survive. It also permits mold and fungus that can support certain pests.	Lecture, List Moisture Sources	Moderate
3	Recognize possible harborage sites: any crack or crevice can serve as harborage for cockroaches, loose flashing, accumulated debris and cardboard boxes.	Lecture, List Harborage Sources	Moderate
4	Be consistent in sanitation. See cleaning not merely as an assignment, but as a means of preventing pests and preparing for the next day's activities. Start the new day with a thoroughly clean storage area. Clean floors, corners, and under equipment. Spot clean walls as needed, and keep shelving clean.	Guided Discussion, List Critical Sanitation Sites	Difficult
5	The equipment used to clean: mops, brushes, rags, brooms, buckets, etc. must be thoroughly cleaned to eliminate accumulated food particles. Must be stored in such a manner as to permit drying. The storage must also be kept clean.	Guided Discussion, List Cleaning Equipment, List Risks from Using or Storing Unclean Equipment	Moderate

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion

WAREHOUSE STAFF LESSON PLAN UNIT SEVEN

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation  
 SUBJECT MATTER: Know the Importance of Proper Inspection  
 UNIT OF INSTRUCTION: Unit 7: Lecture, Guided Discussion – 30 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Maintain a consistent integrity of the sanitation process. The same effective procedure must be followed routinely to ensure that all areas receive the most thorough cleaning possible. What procedure do you use to ensure the same level of sanitation from day to day?	Lecture, Guided Discussion, Protocol of Inspection, List Cleaning Procedures	Easy
2	Understand the monitoring process. If you suspect the presence of a pest, the PMT can set monitoring traps that will determine the type and location of the possible pest. Accompany the Technician during the placement of the monitoring devices. These devices should not be removed or relocated. Inform the Technician of any activity or captures in any of the traps.	Lecture, Guided Discussion	Moderate
3	Always keep accurate records such as inspection reports and Pest Sighting Logs. Also, make notations as to when requests for assistance were made, and any response.	Lecture, Examples of Records	Moderate
4	Know the procedure that will be followed by the Pest Management Technician when responding to a pest call. He/she will identify the problem pest, recommend steps to take to prevent or eradicate such pests (i.e., proper cleaning procedure, elimination of clutter or debris, repair of structure, etc.). The establishment of a pest infestation signals a breakdown in an effective IPM program. If the Technician makes such recommendations to a Warehouse Supervisor, this indicates the manager was lax in enforcing proper IPM procedure.	Lecture, Guided Discussion, List Suggestions by Cafeteria Managers.	Moderate to Difficult

INSTRUCTIONAL SEQUENCE: What comes first, chronological order  
 METHOD OF INSTRUCTION: Lecture, demonstration, performance, discussion