

IPM CURRICULUM FOR CAFETERIA AND OPERATIONS TRAINING SPECIALISTS

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, your role in policy implementation, how to activate pest management help, expectations from Pest Management Technicians.
2. Identify pests.
3. Pest exclusion from site.
4. Storage: FIFO, delivery, quarantine.
5. Sanitation: food, moisture, harborage.
6. Inspection and monitoring, observation and reporting.
7. Training objectives.

PERFORMANCE OBJECTIVES:

Unit #	Objective of Performance	Importance	Learning Difficulty
1	Know the IPM policy, understand roles in policy implementation and know how to activate help to manage pests.	Very Important	Moderate
2	Be familiar with problem pests, why pests are identified as such.	Not too Important	Easy
3	Recognize entry points for pests and learn how to stop pests from entering.	Important	Difficult
4	Know storage procedures: FIFO, inspect deliveries.	Important	Moderate
5	Know sanitation procedures: Remove food, moisture, harborage from equipment, prep surfaces, floors, corners, drains, grease traps, joints, mops, storage, trash removal, outside conditions.	Very Important	Moderate to Very Difficult
6	Perform inspections: Outside and inside daily – general cleanliness, repairs, monitoring by Pest Manager, trap placement and type, report to appropriate party, Pest Management Technician, records, expectations.	Very Important	Moderate to Difficult
7	Provide quality training and oversight to enable personnel to transition from reactive to preventive practices for pest management.	Very Important	Difficult

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN

PREPARATION DATE: May 8, 2008

PREPARED BY: William E. Currie

UNIT OF INSTRUCTION: Low-risk IPM Policy Implementation

TITLE OF LESSON: Policy, Roles, Help, Problem Pests, Exclusion

INSTRUCTIONAL OBJECTIVE: Know the low-risk IPM policy, their role in implementation, and how to get pest management help. Understand why pests are a problem, exclusion of pests from entry.

TIME ALLOTTED FOR LESSON: 2 hours
METHOD OF INSTRUCTION: Lecture, guided discussion, demonstration
INSTRUCTIONAL RESOURCES: Manual, slides, flip chart, homework handout
A/V EQUIPMENT: Flip chart, PPT, slide projector, overhead projector, screen

GENERAL PLAN OF PRESENTATION: Introductions – our role – their charge. Why an IPM Policy? What it does, prohibited activities, their roles in implementation, how to get pest management help, expectations, problem pests and their importance, exclusion, points of entry, how to keep them out, who does what, supplies receiving and storage procedures, how it relates to low-risk pest management, homework.

INTRODUCTION: Names and roles of instructors, student introductions. Why are we here? Prepare low-risk pest management lesson plans and support the implementation of the low-risk pest management policy.

EXPLANATION/APPLICATION/PRESENTATION:

1. IPM policy does several innovative things, IPM defined, Precautionary Principle, approved pesticide list, notification, posting of products NOT on the approved list, emergency approval process, low-risk pest management training for staff, does not ban pesticides, emphasizes low-risk materials and methods, staff do not use pesticides (only licensed Pest Management Technicians are authorized), provides important roles for staff, reduce clutter, no food (except authorized sites). Observation and reporting of pest presence or evidence, reportable conditions (Pest Activity Log), process to get pest management help. Facility Manager is site point of contact. Expectations from Pest Management Technicians and maintenance actions.
2. Good bugs and bad bugs – tolerance for critters – low tolerance in kitchens and classrooms. Which ones are pests (list from group) and the importance of each (from group).
3. Exclusion: sizes of pests, smaller pests mean more work to exclude. What do pests need: air, water, food, temperature, shelter, light. How do pests get in? (Doors, windows, pipes, vents, cracks and crevices, dumpsters, supplies, clothes – staff). How do we keep pests out? (Close doors, door sweeps, screens, caulk, cleaning, hair and beard covers, clean clothes, etc.) Whose job is it? (Occupants, maintenance, Cafeteria Managers, Facility Managers, Pest Management Technicians)

CONCLUSIONS/SUMMARY: Low-risk pest management takes team work, 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. Everyone has a role to fill and all must do their part. You are an important member of the team.

HOMEWORK ASSIGNMENT:

1. Read Manual.
2. Write out procedures for getting pest management help.
3. Describe your role in the policy implementation.
4. List pests or evidence of pests you observe this week (what, when, where in detail).
5. Prepare a lesson plan to train staff on today's material.

CAFETERIA AND OPERATIONS TRAINING SPECIALIST 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, Guided Discussion – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

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

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT TWO

COURSE DESCRIPTION: Low-risk Integrated Pest Management Implementation
 SUBJECT MATTER: Problem Pests
 UNIT OF INSTRUCTION: Unit 2: Guided Discussion, Group Performance – 15-30 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Good bugs/bad bugs – every living organism in nature has a role – indoors – less tolerance for critters.	Lecture, PPT, Slides	Easy
2	List problem pests, explain why pests are identified as pests.	Guided Discussion, Group Input, List on Flip Chart, Group Performance	Easy
3	From list, determine level of importance – emergency, urgent, routine, non-essential	Guided Discussion, Group Performance	Moderate
4	Summary – Q&A	Lecture, Q&A	Easy

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT THREE

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation
SUBJECT MATTER: Exclude Pests from Entering the Site (Cafeteria/Kitchen, Classroom, Campus)
UNIT OF INSTRUCTION: Unit 3: Guided Discussion – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Pests come in all sizes – exclusion effort increases as size decreases.	Lecture, Demo, PPT, Slides	Moderate
2	What do pests need and where do they find it? Air, water, food, shelter, temperature, light (for plants).	Guided Discussion	Easy
3	How do pests get in? Doors, windows, pipes, drains, vents, supplies, clothes, cracks and crevices, dumpsters, etc.	Lecture, Guided Discussion	Moderate
4	How do we keep pests out? Close doors, door sweeps, window screens, caulk cracks and crevices, clean drains, quarantine supplies, close trash containers, etc.	Lecture, Guided Discussion	Moderate to Difficult
5	Whose job is it? Occupants, Cafeteria Managers, Maintenance, Facility Managers, Pest Management Technicians, teachers, principals.	Guided Discussion	Difficult
6	Summary, Q&A		Easy
7	Homework: Read manual. Write procedures for getting IPM help. Describe your roles in policy implementation. List pests or indications you observe this week and where. Prepare curriculum (lesson plans) to train cafeteria staff on today's material.		Moderate

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN

PREPARATION DATE: May 8, 2008

PREPARED BY: William E. Currie

UNIT OF INSTRUCTION: Low-risk IPM Policy Implementation

TITLE OF LESSON: Storage and Sanitation

INSTRUCTIONAL OBJECTIVE: Understand the concept of proper procedure for receiving and storing goods, and how these procedures enhance the successful IPM program. Understand the concept of sanitation procedures and how they augment a successful IPM program.

TIME ALLOTTED FOR LESSON: 2 hours

METHOD OF INSTRUCTION: Lecture, guided discussion

INSTRUCTIONAL RESOURCES: Manual, slides, flip chart, homework handout

A/V EQUIPMENT: Flip chart, PPT, slide projector, overhead projector, screen

GENERAL PLAN OF PRESENTATION: Discuss proper receiving and storage procedures and the importance to IPM. Discuss sanitation procedures and identify common harborage sites for various pests. Present the concept of the thorough cleaning procedure: know the equipment used to clean and its proper storage and maintenance. Know how inspection aids and reinforces these procedures.

INTRODUCTION: Review homework prepared by students from prior session on policy, problem pests and exclusion.

EXPLANATION/APPLICATION/PRESENTATION:

1. It is vital to prevent pests from entering sites in delivered products. Know the signs of pest presence (examples), damaged packaging, urine stains, droppings, dead or live insects, etc.
2. Damaged packages could be entry points for established or future infestations. Refuse, repair or repackage.
3. Records should be kept on all goods received, along with the condition of packages, evidence of pests, etc.
4. Discussion of FIFO. Stress importance of rotation and mention problems avoided through this practice.
5. List requirements of good storage and how each discourages pests.
6. Discuss the important role of routine and thorough inspection: how it should be done and the tools needed.
7. Discuss the elements that comprise sanitation: thorough cleaning, elimination of all harborage, and moisture management.
8. Using guided discussion, provide the obvious harborage sites, then the less obvious. Give samples of structural defects, equipment and clutter (PPT or slides).
9. Give examples that demonstrate how important thorough cleaning is, and how the most unobvious food sources could feed a colony of cockroaches.
10. People will systematically avoid cleaning those areas that present the greatest difficulty. Using guided discussion, have participants give examples.
11. Discuss what equipment is used in thorough cleaning processes and how it should be used.

12. Ask participants what they do with these cleaning items after use. Using guided discussion, explain the methods of proper cleaning of equipment, dry storage of mops, wiping out buckets, etc.
13. Discuss why routine inspections will reinforce the new procedures implemented.

CONCLUSIONS/SUMMARY: Ask participants to highlight the important concepts discussed. Guide this discussion so it reinforces the major points presented. Summarize the concepts behind sanitation, elimination of harborage, and proper use and storage of cleaning equipment.

HOMEWORK ASSIGNMENT:

1. Design checklist that highlights difficult cleaning areas in a particular site.
2. List the hazards of not properly maintaining cleaning equipment.
3. Provide examples of potential food sources that could be overlooked with a less-than-thorough cleaning procedure, and make suggestions that would correct these shortcomings.
4. Design a checklist for receiving and storing goods.

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT FOUR

COURSE DESCRIPTION: Low-risk Integrated Pest Management Implementation
 SUBJECT MATTER: Storage – FIFO – Delivery and Quarantine
 UNIT OF INSTRUCTION: Unit 4: Lecture, Guided Discussion, Demonstration – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Inspect deliveries for presence of pests. Obvious signs: pest itself, fecal pellets or spotting, odor of urine (rodents, cockroaches), webbing or frass (moths), dead insects, gnaw marks, rub marks, damaged packaging. Less apparent signs: disturbed or scattered items, cockroach odor, odor of mold spores. Quarantine away from site, return, repackage, repair.	Verbal Presentation with Examples and Hands-on Demonstration	Easy
2	Check for quality and integrity of packaging – paper, plastic, cellophane, wrapping of goods.	Lecture, Q&A	Moderate
3	Accurate and complete record keeping.	Lecture, Q&A	Moderate
4	Proper storage procedure – FIFO and why?	Lecture, Q&A, PPT	Moderate
5	Storage maintenance/sanitation – temperature – moisture, accessibility.	Lecture, Q&A, PPT	Moderate
6	Site inspection: Why necessary (retain uniformity and quality, point out problems, keep good records, document success of program), and how to do it (thoroughly!! Get down on knees and look under equipment, use all inspection tools).	Guided Discussion, Demonstration	Moderate
7	Review – repeat major points, Q&A	Guided Discussion	Easy

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT FIVE

COURSE DESCRIPTION: Low-risk Integrated Pest Management Implementation
 SUBJECT MATTER: Sanitation: Why it's key to IPM
 UNIT OF INSTRUCTION: Unit 5: Lecture, Guided Discussion, Demonstration – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Sanitation – discussion of elements. Thorough cleaning of all surfaces and equipment. Elimination of all harborage. Moisture management.	Lecture, Discussion, Q&A, Remember – Eliminate Harborage	Moderate
2	Identifying harborage: Examples of structural defects, holes in walls, unsealed flashing, equipment voids and clutter.	Guided Discussion	Moderate
3	The concept behind the thorough cleaning procedure. Pests must be denied anything they consider food. Examples of food on counters and preparation surfaces, scraps on floor and equipment, spills in storage area.	Discussion – what constitutes food for a cockroach	Moderate
4	Thorough cleaning – the most difficult places to clean – where bugs are.	Guided Discussion, Q&A, Input Important	Moderate
5	Equipment: what to use and how to use it. List of equipment used (brooms, mops, rinse buckets, etc.).	Discussion, List on Flip Chart	Easy
6	Equipment: maintenance and storage. What is procedure after cleaning?	Guided Discussion	Easy
7	Routine inspection – ask why it is important based on previous training.	Guided Discussion, Q&A	Moderate
8	Summary, Q&A	Lecture follow-up, Q&A	Easy
9	<p>HOMEWORK ASSIGNMENT:</p> <ol style="list-style-type: none"> 1. Design a detailed checklist that would highlight areas in a particular site which are often overlooked due to difficulty in cleaning. 2. List as many hazards (problems) as possible which could result from improper maintenance of cleaning equipment. 3. Give several samples of potential cockroach food which would be overlooked in a less than thorough cleaning procedure. 4. Make recommendations on how the cleaning procedure could be amended to solve each problem. 5. Design an inspection checklist for receiving and storing products. 		

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN

PREPARATION DATE: May 8, 2008

PREPARED BY: William E. Currie

UNIT OF INSTRUCTION: Low-risk IPM Policy Implementation

TITLE OF LESSON: Inspection and Monitoring – Training the Trainer

INSTRUCTIONAL OBJECTIVE: Know concepts of thorough inspection and monitoring for pests, and know how these procedures enhance the successful IPM program. Know training techniques to cover “must know” information first. Use guided discussion, show and tell, demonstration, then coach “hands-on” performance to build proficiency and comfort level.

TIME ALLOTTED FOR LESSON: 2 hours

METHOD OF INSTRUCTION: Lecture, guided discussion, demonstration

INSTRUCTIONAL RESOURCES: Manual, slides, flip chart, homework handout

A/V EQUIPMENT: Flip chart, PPT, slide projector, overhead projector, screen

GENERAL PLAN OF PRESENTATION: Review homework from previous class. Why and how to inspect, and equipment to use. Record keeping and reporting, monitoring and monitoring tools. Training objectives: behavior change, IPM advantages, and how to cover “must know” information first,. Use guided discussion, “show and tell,” and demonstration. Then coach “hands-on performance” to build proficiency and comfort level.

INTRODUCTION: Discuss homework: cleaning checklist, overlooked food sources for cockroaches and corrections, checklist for receiving and storage; lead-in to inspection and monitoring.

EXPLANATION/APPLICATION/PRESENTATION:

1. Sherlock Holmes lamented, “My dear Watson, you look but do not see!” Using guided discussion, ask participants how this shortcoming could affect the success of an IPM program. Answers should include less than thorough cleaning could permit sustenance for pests, poor inspections that do not point out blossoming problems, eventual failure when all concepts are disregarded.
2. List procedure for conducting a proper inspection for sanitation and proper storage. Points to cover would be thorough cleaning of all surfaces (floors, walls, flashing, shelving, etc.), and all equipment at site.
3. Using guided discussion, list and discuss tools of inspection.
4. List reasons for keeping records and state proper procedure for reporting problems.
5. Using guided discussion, have participants suggest why monitoring is important to IPM.
6. List the tools used to monitor for the presence of pests.
7. List the do’s and don’ts of monitoring and how this procedure augments the successful IPM program.
8. Training objective: Change behavior to change attitude. Change is easier with incentives and recognition. Recognize movement toward goal.
9. IPM advantages: Fewer pests, fewer toxic pesticides, less illness, students learn more, faster, fewer interruptions. Your work environment is under your own control.
10. Cover “must know” information first. Use guided discussion to get class input and buy-in. Use “show and tell” and demonstration, then coach “hands-on” performance by trainees to build proficiency and comfort.

CONCLUSIONS/SUMMARY: Have participants go over highlights of inspection and monitoring. Enhance with PPT or slides. Charge: Part of a Team – help others to change behavior.

HOMEWORK ASSIGNMENT: Pass this information on to others.

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT SIX

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation
 SUBJECT MATTER: Inspection and Monitoring
 UNIT OF INSTRUCTION: Unit 6: Guided Discussion, Demonstration – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Inspection – looking versus seeing – why is this so important?	Guided Discussion	Easy
2	Proper inspection discussed for storage and sanitation. Why is this important to IPM based on procedures?	Guided Discussion, PPT or Slides	Moderate
3	Equipment used to perform inspection: proper clothing, hard hat, detailed checklist, flashlight, tools if necessary to dismantle equipment.	Demonstration, Guided Discussion, Flip Chart	Easy
4	Record keeping and reporting. Keep all checklists on file. Make notes on problems and actions. Know where to report problems.	Guided Discussion	Moderate
5	Monitoring – how important is it? Early indicator of problems. Zero in on “hot spots.” Determine effectiveness of procedures.	Discussion, Q&A	Moderate
6	Tools used to monitor: sticky traps (non-attractant versus attractant), pheromone traps, tracking powder.	Guided Discussion, PPT or Slides	Easy
7	Do's and don'ts of monitoring: Do keep accurate records of placement Do keep accurate records of results Do keep accurate records of actions Don't move traps, destroy traps, forget traps	Guided Discussion, List on Flip Chart, Discuss Why Each is Important	Moderate

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

CAFETERIA AND OPERATIONS TRAINING SPECIALIST LESSON PLAN UNIT SEVEN

COURSE DESCRIPTION: Low-Risk Integrated Pest Management Implementation
SUBJECT MATTER: Training objectives
UNIT OF INSTRUCTION: Unit 7: Lecture, Demonstration – 45 minutes to 1 hour

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instruction Method (Performance)	Learning Difficulty
1	Training objective: Change behavior from reactive to preventive pest management program.	Lecture	Difficult
2	Change behavior to change attitude – perfect practice makes perfect behavior – success makes more success.	Lecture	Moderate
3	Change is easier with incentives and recognition – recognize any movement toward the ideal behavior.	Lecture	Moderate
4	IPM advantages for you: Fewer pests, less illness from pesticide exposure, students will learn more and faster, less interruption by pests.	Lecture	Easy
5	Your students will learn more and faster. You will have fewer interruptions by pests.	Lecture	Easy
6	Your work environment is under your own control with these new low-risk pest management techniques.	Lecture	Moderate
7	Cover “must know” information first – guided discussion will get class input and buy-in.	Lecture, Demonstration	Moderate
8	Use “show and tell” to illustrate techniques.	Lecture, Demonstration	Moderate
9	Demonstrate, then coach “hands-on performance” by trainees to build proficiency and comfort level with skill.	Lecture, Demonstration	Moderate
9	Evaluation, Q&A	Class Performance	Easy
10	Charge: Teach IPM to others.		

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