IPM CURRICULUM FOR NUTRITION CENTER STAFF

LOW-RISK INTEGRATED PEST MANAGEMENT TRAINING

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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.

5. Methods of preventing infestations in storage areas.

6. Proper procedures for sanitation in food preparation areas.

7. Understanding the inspection process and the need for good record keeping.

PERFORMANCE OBJECTIVES:

Unit	Objective of Performance	Importance	Learning Difficulty
1	Know policy, understand roles in the policy, and know how to activate help to manage pests.	Very Important	Moderate
2	Be familiar with problem pests; be able to determine whether they are originating from the outside or if they are the result of an internal infestation.	Important	Easy
3	Recognize possible points of entry for outdoor pests: C&C, door sweeps, screens, drains, holes in walls, etc. Steps to correct: routine inspection, proper notification of needed repairs, etc.	Important	Moderate
4	Recognize the signs of infestation: pinpoint holes in packaging from beetles, spillage of product from areas of pest damage, webbing and frass from moth larvae, actual pest sightings, gnaw marks, urine stains, droppings, and damage from rodents, water or moisture, and mold odor that could signal mite or psocid infestation.	Very Important	Moderate to Difficult
5	Proper storage procedures: inspection of deliveries for pest presence, good sanitation of storage areas to identify problems in early stages, FIFO.	Very Important	Moderate to Difficult
6	Proper sanitation procedures: remove all possible food, eliminate moisture, remove or eliminate all possible harborage. Proper and thorough cleaning procedures for floors, corners, beneath equipment, drain areas, floor joints. Proper maintenance and storage of cleaning equipment.	Very Important	Moderate to Difficult
7	Realize that all cafeterias are not maintained with the same degree of sanitation. Know the importance of proper inspection to maintain the integrity of sanitation. Understand monitoring for pests. Know the importance of proper record keeping. Review the procedures taken by Pest Management Technicians (PMTs) when they respond to a pest problem. When a pest problem is determined to be established by the PMT, this indicates a failure of basic IPM procedures.	Very Important	Moderate to Difficult

KEY:

IMPORTANCE:	Very important, important, not too important
OBJECTIVE OF PERFORMANCE:	Must know, be familiar, have knowledge, understand, perform, demonstrate, etc.
LEARNING DIFFICULTY:	Easy, moderate, moderate to difficult, difficult

NUTRITION CENTER STAFF 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, pest management help, problem pests, points of entry, signs of infestation, proper procedures for storage and sanitation.

INSTRUCTIONAL OBJECTIVE: Know IPM policy, roles in implementation and how to get pest management help. Become familiar with common pests, readily recognize points of entry, know signs of infestation, understand benefits of proper storage and sanitation procedures, know how to be your own health inspector.

TIME ALLOTTED FOR LESSON:	2 hours
METHOD OF INSTRUCTION:	Lecture, guided instruction
INSTRUCTIONAL RESOURCES:	Manual, flip chart, samples
A/V EQUIPMENT:	None

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

INTRODUCTION: Names and roles of instructors. Why are we here? Implementation of low-risk pest management policy.

EXPLANATION/APPLICATION/PRESENTATION:

1. IPM policy does innovative things: IPM defined, precautionary principle, approved pesticide list, notification of parents and staff, posting of products NOT on 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, 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, Facilities Manager is site point of contact, expectations from PMTs and maintenance actions.

2. Problem pests: You don't need a degree in entomology to be able to recognize arthropods which can be identified as the "casual invader" which takes advantage of structural defects to gain entry, and those which are capable of infesting a food facility.

3. Learn to recognize entry points: Any incidence of accidental invasion should immediately trigger a search for possible points of entry. Was it a flying insect? Did it come in through a door left ajar or open too long? Learn to be a detective!

4. Signs of infestation: An established infestation will provide evidence that points to its existence. Cigarette beetles chew holes in cardboard, cellophane and paper. The contents of the package can then spill out onto shelves and floor. Moth larvae leave behind visible webbing or frass, and loose product will "string" together. Many pests present themselves in full view. Mites are present when moisture is a problem; they produce a light brown dust that is actually piles of shed skins and dead mites, and the mold will give off a particular scent from the spores. Psocids multiply to high numbers in the presence of moisture and the surface of the product will look "alive."

5. Proper storage procedures: Knowing the signs of infestation of incoming supplies such as damaged packages, visual signs of pests. Know the importance of keeping storage areas clean and free of clutter, keeping accurate records of any problems. A new infestation will provide much less evidence than an established one, but this is the ideal point of discovery. FIFO is vital as well as accurate record keeping.

6. Proper sanitation: Review the importance of eliminating anything that pests such as cockroaches and flies will see as food. Explain why moisture is so vital to insects and why the repair of leaks and the drying out of cleaning equipment is so important. Explain why added effort may be needed to eliminate harborage due to clutter, and remind why cockroaches love cardboard containers and PMTs hate them. The out-of-the-way sites such as corners, floor joints, high shelves and beneath equipment are places that escape routine cleaning and often are the source of infestations.

7. Maintaining uniformity: Realize that everyone sees things in a different light and that all cafeterias are not maintained with the same degree of sanitation. Lack of uniformity may be the result of staff being inadequately trained or supervised due to a shortage of time rather than an apathetic attitude toward sanitation. Ask for additional reasons for a lack of uniformity between facilities. Know the methods of monitoring and why accurate documentation is important. Learn what to expect when a PMT responds to a trouble call.

CONCLUSIONS/SUMMARY: Low-risk pest management requires dedication since the tasks involved are often tedious and time consuming when performed correctly. A thorough understanding as to why these procedures are so important frequently imparts a degree of significance to even the most mundane task.

NUTRITION CENTER STAFF LESSON PLAN UNIT ONE

COURSE DESCRIPTION: Low-risk Integrated Pest Management Implementation
SUBJECT MATTER: Policy, Roles, How to Activate Help
UNIT OF INSTRUCTION: Unit 1: Lecture, PowerPoint – 30-35 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 PMTs apply pesticides, remove harborage (clutter), no BAN on pesticides, phase out pesticide use over time	Lecture	Difficult
4	Roles, sanitation, no food, pest-proof food storage, eliminate clutter, observation & reporting, teach others	Lecture	Moderate
5	Reportable conditions, pest sightings, pest evidence, droppings, gnawing, webbing, fecal focal points, scattered trash, etc.	Lecture, display, Q&A	Difficult
6	Point of contact, Facilities Manager, may examine situation, call to report, info directed to appropriate office	Lecture	Easy
7	Expectations, pest management technician responds, emergencies that day, thorough inspection & monitoring	Lecture, demo (monitors, traps)	Easy
8	Low-risk pesticide application, follow-up, repairs of structural defects to prevent pest access	Lecture	Easy
9	Basics of IPM: exclusion, sanitation, habitat modification, inspection, monitoring, low-risk pesticide, records	Lecture	Difficult
10	Summary, Q&A	Lecture	Easy

NUTRITION CENTER 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 – 15-20 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instructional Method (Performance)	Learning Difficulty
1	Good bugs/bad bugs, every living organism in nature has a role, indoors, less tolerance for critters	Lecture, slides	Easy
2	List of possible pests.	Guided discussion, group input, list on flip charts	Easy
3	From list, determine level of importance, emergency, urgent, routine, non-essential	Guided discussion, group performance	Moderate
4	Summary, Q&A	Summary, Q&A	Easy

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

NUTRITION CENTER STAFF LESSON PLAN UNIT THREE

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

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instructional Method (Performance)	Learning Difficulty
1	Learn to recognize points of entry for outdoor pests a) the most obvious is missing or poorly installed/maintained door sweeps and screens b) holes in walls c) cracks and crevices d) drains, etc.	Lecture, guided discussion, list outdoor pests, list entry points	Easy
2	Once these sites have been identified, proper procedure to correct problems must be followed: a) notification of Facilities Manager b) proper record keeping to aid either crafts or Pest Management Technicians in the elimination of problem c) routine inspection conducted to maintain structural integrity	Lecture, guided discussion, list entry point elimination, who does it? Procedure to get help, Facilities Manager, trouble call, Pest Management Technician, crafts, periodic inspection by Cafeteria Manager	Easy

NUTRITION CENTER 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)	Instructional Method (Performance)	Learning Difficulty
1	Become familiar with the signs of infestation in stored food products: a) pin-sized holes in packages b) spillage from damaged packages c) webbing and frass from moth larvae d) actual presence of pests such as beetles, moths, psocids or mites e) gnaw marks, urine stains or odors, droppings from rodents f) water and moisture damage or the odor of mold spores that could signal mite or psocid infestation	Lecture, samples/slides, guided discussion, list signs of infestation	Moderate
2	Become familiar with those pests that are the result of an infestation within the food storage or preparation/serving 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 slides	Easy

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

NUTRITION CENTER 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)	Instructional Method (Performance)	Learning Difficulty
1	Know the steps necessary to prevent introduction of infesting pests: a) thorough inspection for signs of infestation b) quarantine c) return of damaged/infested items d) proper record keeping	Lecture, handout checklist	Moderate
2	Review the proper procedures for stored products: a) FIFO b) good sanitation (keeping shelving and floors clean) c) thorough and routine inspection to quickly identify possible problems (looking for signs of infestation) d) good record keeping	Lecture, guided discussion	Moderate

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

NUTRITION CENTER 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 – 15 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instructional Method (Performance)	Learning Difficulty
1	Realize that good sanitation means THOROUGH REMOVAL OF ANYTHING PESTS CONSIDER AS FOOD. This means accumulated grease on equipment, crumbs and small particles in corners of floors and counters, 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. German cockroaches usually congregate in moist areas such as around dishwashers, sinks and mop closets. 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 beneath equipment, cast off items such as old equipment and cardboard boxes.	Lecture, list harborage sources	Moderate
4	Be consistent in sanitation! Train your staff to 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 facility. Clean preparation tables, 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, and stored in such a manner as to permit drying. The storage closet 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

NUTRITION CENTER 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 – 20 minutes

INSTRUCTIONAL PROCEDURE:

No.	Instructional Sequence (Tasks)	Instructional Method (Performance)	Learning Difficulty
1	Know the proper procedure for inspection. The purpose is to 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 pests, the Pest Management Technician can set monitoring traps that will determine the type and location of the possible pest. Be sure to 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, example 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 Cafeteria Manager, this indicates the manager was lax in enforcing proper IPM procedure. As a manager, what suggestions can you make to ensure uniform compliance to IPM policies within all cafeterias?	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