

Chapter 15:

Pest Control

Learning Objectives

After completing this chapter, you will be able to:

- Explain the importance of a good pest control program to food safety
- Describe proper procedures for implementing a pest control program
- Develop a pest control plan including written standard operating procedures and record templates

Chapter 15: Pest Control



Pests at the Market

At one of the indoor markets, Liane sees a mouse run across the floor as she sets up her stall. Knowing this can't be good, she informs the market manager. Although the manager set out mousetraps at the beginning of the season, he's failed to check them on a regular basis. After Liane's complaint, the manager checks the mousetraps and finds three with dead mice. There is obviously a problem at this market.

Meanwhile, as Pam unpacks the last two totes of strawberry baskets at the outdoor market, she discovers that the berries in the bottom tote are quite crushed. She sets this tote aside and continues unloading.

When she returns to the truck midway through the market day to restock her stall, Pam finds wasps swarming all around the discarded strawberry tote. She carefully moves it away from the market stalls, disposes of the strawberries and quickly rinses out the tote before covering and storing it in the truck for further cleaning at home. Pam reminds her staff that bruised and spoiled produce must be disposed of immediately to prevent pest infestation.



An effective pest management program focuses on prevention, monitoring and eradication.

Hazards

A proper pest control program reduces the risk of contamination from the following:

- Biological hazards from contamination of food, packaging material and equipment by pathogenic microorganisms carried by pests or transferred through their urine and droppings
- Chemical hazards from pesticide residues because of improper application, the wrong pesticide being used or improper storage of pesticides and application equipment
- Physical hazards created by the presence of excrement or the physical remains of pests

Effective Pest Management

Pests contaminate food and transmit diseases. An effective pest management strategy focuses on safe and effective control and exclusion. The three components of effective pest management include:

- Prevention
- Monitoring
- Control

Pesticide – a substance used to prevent, destroy or repel any insect, nematode, rodent, predatory animal, parasite, bacteria, fungus, weed or other form of plant or animal life.

Pathogenic microorganism – any bacteria, virus, mould or other form of life too small to be seen by the naked eye and capable of causing disease, illness or injury.

Eradication – steps taken to totally eliminate a pest from the area.

Prevention

Pest infestations can occur wherever there is a food source and suitable breeding sites. You need to take steps to create an environment that is not favorable for pests. A good sanitation program and regular monitoring minimizes the likelihood of an infestation and thereby minimizing the need for pesticides. Contact a reputable pest control company for advice on preventing access by pests.



If pests are allowed to live directly outside the facility, they have a greater chance of getting inside and contaminating the premises. Keep the area around your food establishment free of rubbish, weeds, pallets and equipment. A gravel barrier 60 cm (24 in.) around buildings reduces potential hiding places for rodents and insects.

Keep your buildings in good condition. Regular maintenance and repair will prevent animal access and eliminate potential breeding sites. Routinely inspect the building exterior for holes where insects, birds or rodents might enter.

Seal any holes, cracks, drains and other places where pests can enter. Remember, a mouse can enter a building through a hole the size of a dime. Screens on windows, doors and ventilation systems, and doors with proper weather stripping all serve as preventive measures. Keep all doors closed to reduce access to pests.

Collect garbage in covered containers and empty when full to prevent the garbage from spilling over. If the pests have easy access to food, they are more likely to come back or simply take up residence.

Keep the area around buildings free of shrubs, equipment, rubbish and weeds.

Regular maintenance and repair of buildings will help prevent pests from entering your food establishment.



For more information on building exteriors and interiors see Chapter 8: Premises.

Regularly monitor your food establishment for signs of pest activity.

Farm direct marketers must develop and follow written pest control schedules and procedures.

Pests are found in food establishments if they are provided with a supply of food and water, and when there is inadequate cleaning and sanitation. Ensure that food is kept away from pests. Store food in pest-proof containers and stack above the floor and away from the walls.

Outdoor farmers' markets need to leave the market site as clean as possible to minimize the number of pests that remain at the site and are attracted to the site between market days. Do not use domestic animals like cats for pest control.

Monitoring

You should check all areas of the food establishment regularly for signs of pest activity such as rodent and bird droppings, smear marks, insect egg cases, dead insects and damage to packaging. Make staff aware of the signs of pests and the actions they need to take if they discover any.

Place your traps in strategic areas throughout the facility. Maintain a map of these trap locations and inspect the traps at least twice a month. Poison baits cannot be used where food is handled.

Control

If your monitoring detects any pest activity, implement control measures immediately. Farm direct marketers **must** develop and follow written pest control schedules and procedures.

Chemical pest control measures include the use of pesticides, traps and baits. All pesticides used **must** be registered under the federal *Pest Control Products Act* and Regulations and listed in the Reference Listing of Accepted Construction, Packaging Materials and Non-Food Chemical Agents published by the Canadian Food Inspection Agency.

Purchase pest control devices that are well designed and intended for use in food handling areas. Locate them in areas that will effectively control pests but not contaminate food or equipment.

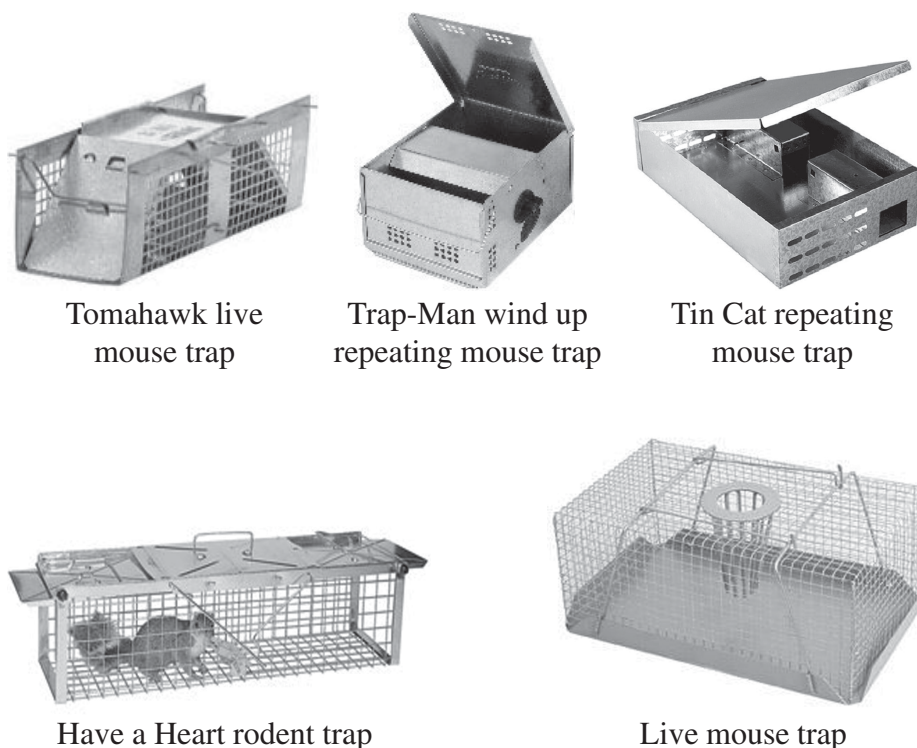


Figure 15.1 **Live Rodent Traps for Use Within Food Establishments**

Locate devices used to electrocute flying insects at least 2 m (6 ft.) away from any food handling areas. Empty and clean them regularly. Install sticky tapes or similar devices used to trap insects so that dead insects or their body parts cannot fall onto food or equipment.

Pesticides **must** be used according to label instructions. Before applying pesticides, you need to protect all food, equipment, utensils and packaging material from contamination. After application, thoroughly clean all your equipment and utensils to remove any residues.



More information on pest identification and pesticide usage can be found on the website of the federal Pesticide Management Regulatory Agency (PMRA) at www.pmra-arla.gc.ca/english/index-e.html

Monitor all pest control activities for effectiveness. Keep a written record of all pest control measures used in and around the premises as required under the Food and Food Establishments Regulation. Farm direct marketers should discuss their pest control programs with their public health inspectors.

Use registered pesticides according to label instructions. Locate pest control devices away from food and food handling equipment.

Clean and sanitize food contact surfaces that have been contaminated by pests.

Store all pest control products in a secure, designated area away from food handling activities.

If your food establishment becomes infested, you must undertake measures to control the problem. Clean and sanitize surfaces contaminated by pests to remove pathogens. Clean and sanitize from the top to the bottom to reduce the chance of recontamination.

Store all pest control products properly in designated areas away from food handling areas. Keep this storage area locked at all times and labelled as pesticide storage.



For more information on proper storage conditions see Chapter 10: Storage and Alberta Environment at www3.gov.ab.ca/env/protenf/pesticide/usage/pesticide_storage.html

Pest Control Personnel

Hire properly trained personnel to carry out a pest control program. Use the services of a certified pest control operator who is trained to use the approved chemicals and methods. If this service is contracted, your records must document the name of the company, contact information and control measures. Talk to the pest control professional about integrated pest management approaches.

Should you choose not to contract pest control services, you or your staff could take the Pesticide Applicator Certification Program training. The program is a collaborative effort between Lakeland College and Alberta Environment.



More information can be found on the Alberta Environment website at www3.gov.ab.ca/env/protenf/pesticide/usage/applicator_certification_program.html

An applicator's license is required by anyone applying pesticides for hire or reward. Commercial agriculturists do not need to be licensed when applying pesticides on their own property.



Pest Control Word Match

Match the correct letter with the appropriate term on the left. You will find the answers at the end of this chapter.

- | | |
|------------------------------------|--|
| ___ Disease | A. Both of these are very important aspects of a proper pest control program. |
| ___ 60 cm gravel | B. Before any pesticide is used, what must you ensure is protected from contamination? |
| ___ A dime | C. This simple type of barrier around a building can reduce potential hiding places for rodents and insects. |
| ___ Food | D. A mouse can enter a building through a hole of what size? |
| ___ Live trap | E. Who should you hire to carry out a pest control program? |
| ___ All food | F. This type of rodent trap is the only type allowed within a food establishment such as a farmers' market. |
| ___ Certified pesticide applicator | G. Pests and their droppings can transmit this. |
| ___ Cleaning and sanitation | H. What is most important thing to ensure that mice do not have access to? |

Keeping Records

Detailed and accurate documentation of all pest control measures is essential.



Pest Control Records

Check that your records include the following:

- Name of person responsible for pest control
- Name of pest control company, if applicable
- Monitoring procedures used, frequency of monitoring and findings
- Corrective actions taken if required
- Map of trap locations
- List of pesticides used, formulations, application rates
- Date of applications
- Application method used and location of applications
- Name of applicator if different from above
- Staff training

Staff Training

Safe and effective control and prevention are critical elements to a pest management program. If you decide to contract out pest control activities, this impacts the amount and degree of training your staff receives; however, there are some things staff should know.

Instruct staff to keep their “eyes open”, to be watchful for signs of pest activity. Make them aware of what to look for and who to notify if they detect any signs. Inspecting for pests should become a standard task during routine sanitation and monitoring of premises and equipment.

Staff should be trained about the importance of keeping the food establishment and sales areas clean so as not to attract any pests.

Assign one of your staff to be responsible for monitoring your food establishment. Ensure that they are trained to do this. They should know:

- How to monitor and replenish bait stations
- The frequency of monitoring
- What records to keep

A clean site does not attract vermin and insects. Train your staff about the importance of keeping the premises or market stall clean at all times and what standards they are expected to maintain. Your sanitation program has a tremendous impact on the success of your food safety program.



For more information on cleaning and sanitizing your food establishment see Chapter 9: Sanitation.

Training individuals responsible for pest control is crucial. They need to be trained on the proper use of pesticides and application equipment. It should be clear to all staff what actions are to be taken in the event that a problem occurs.

Vermin – any of the various small animals and insects that are pests, e.g., mice, squirrels, cockroaches.



Food Safety Plan – Pest Control

A pest control program provides assurance that the food establishment is taking appropriate measures to ensure that the facility is kept pest free.

Pest control programs provide assurance that the food establishment operator is taking appropriate action to ensure that pests are minimized in and around the facility. Farm direct marketers **must have** a written pest control plan for their market facilities. Alberta Approved Farmers' Market managers should ensure that there is an effective written pest control program in place for the farmers' market venue. Discuss your pest control program with the your public health officer.

Your written pest control program should include:

- Who is responsible for the pest control program including monitoring and eradication
- Contact information for pest control company if applicable
- Monitoring procedures, frequency and locations
- Where monitoring results are recorded
- Corrective actions, if required, based on monitoring results
- Pest control methods to be used
- What pesticides are to be used with what equipment
- Application methods and frequency of applications
- Records to be kept and where
- Protective measures to be taken
- What must be done in the event that procedures are not followed as written (deviation and corrective actions)
- What must be done if food becomes contaminated (corrective actions)
- Who to contact in case of a pest emergency



Take the time to continue developing your food safety plan. Create a section in your binder for Pest Control. Use the points above to build the pest control component of your food safety plan.

Summary

Pests may contaminate food, utensils and equipment unless an effective pest management program is in place. Effective monitoring, prevention and control measures are critical to the success of your program.

As a farm direct marketer, you must take measures to protect your products from pest contamination. Put in place a written pest control program with records documenting actions taken.

Maintain the grounds and buildings of a food establishment to prevent pests from moving in. If you have an active monitoring program, you can control a problem before it becomes severe.

If you need to use pesticides, it is important that products are registered for use against the pests, recommended for use in food handling areas and are used according to label instructions. Following application, properly clean the treatment areas to avoid contamination from chemical residues. Ensure that traps and other devices do not contaminate any food or equipment in the area.

You and your staff should always be on the lookout for evidence of pest activity.

It is your responsibility to protect your food establishment and your products from contamination by pests. Don't give pests a home!

Market Manager Responsibilities

Alberta Approved Farmers' Market managers are responsible for the safety of the market venue. If you or a vendor identifies any pest problems, you need to bring it to the attention of the building owners or property management company.

If you are a manager of a permanent facility, make sure you can answer the following questions if asked by the public health inspector.

- Is there a pest monitoring program for the market?
- Who is responsible for the pest control program?
- Is there someone who is properly trained to regularly inspect the market facilities for signs of pests and take action to eliminate the problem?
- Is there a system in place to record all pest control measures taken?
- If pesticides have been used, was the facility cleaned and sanitized after the application?
- Are pesticides stored in a secure area well away from food, food contact surfaces and equipment?



Review the Market Startup and Weekly Food Safety Checklists for Market Managers in Appendix M. Add any points on pest control that are missing for your market. Remember you and your vendors should be using the checklists every market day.

What's Next

What's the difference between product tracking and tracing? If ordered by the health inspector, could you initiate a recall of your food products tomorrow? To find out why it's so important for your food safety plan to include traceability and recall components, proceed to the next chapter on Recall.



Resources

If you need more information or have food safety questions about this chapter contact:

Safe Food Systems
Agri-Food Systems Branch, Food Safety Division
Alberta Agriculture, Food & Rural Development
Phone: (780) 427-4054. Dial 310-0000 first for toll free access.

Answers to the Pest Control Word Match

- G Disease
- C 60 cm gravel
- D A dime
- B Food
- F Live trap
- H All food
- E Certified pesticide applicator
- A Cleaning and sanitation



Chapter Review

Take a moment to review the chapter by answering True or False to the following statements.

1. Proper storage conditions are an important part of a pest prevention program. _____
2. Using a pesticide solution stronger than label instructions will improve your pest control program. _____
3. Looking for signs of pest activity should be a standard activity of a pest control program. _____
4. A farmers' market manager must ensure that the market is kept free of pests. _____
5. Producers require a pesticide applicator's licence to spray pesticides on the farm. _____
6. Monitoring activities do not need to be recorded if there are no signs of pest activity. _____

Answers to Chapter Review

- 1) True
- 2) False, pesticides must always be used according to label instructions. Stronger is not better.
- 3) True
- 4) True, if pests are a problem, the manager should contact owners of the facility to arrange for pest control services
- 5) False, a “commercial agriculturist” does not require an applicator’s certificate to spray on property owned by the agriculturist. If spraying someone else’s land or if payment is received, a license is required.
- 6) False, all monitoring activities should be recorded even if no follow-up action is required.