

GOOD

PEST MANAGEMENT

PRACTICES



CONTENT

This publication provides a set of guidelines on good pest management practices for food operators and food handlers. To manage and reduce the risk of food-borne illnesses, a comprehensive and effective food safety management system should be adopted.

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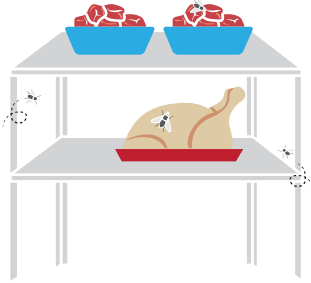
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WHY DO PEST INFESTATIONS OCCUR?

FOOD SOURCE FOR PEST



Improper storage of food.



Food scraps and spillage.

IMPROPER HOUSEKEEPING

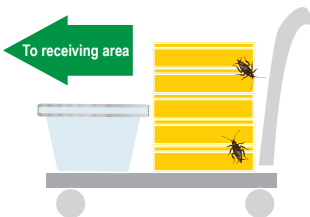


Untidy storage of unused items and equipment - harborage sites for pests.

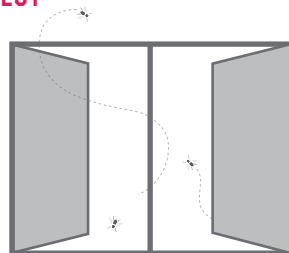


Poor refuse management.

ENTRY POINTS FOR PEST



Contaminated raw ingredients received from supplier.



Opened door/window with no screening.

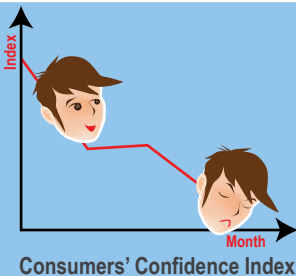
WHY IS PEST MANAGEMENT IMPORTANT?

Pests are carriers of foodborne pathogens. They can contaminate our food and food contact surfaces which can lead to serious food poisoning.



The presence of pests in the food premises reflects poor hygiene and food safety standards.

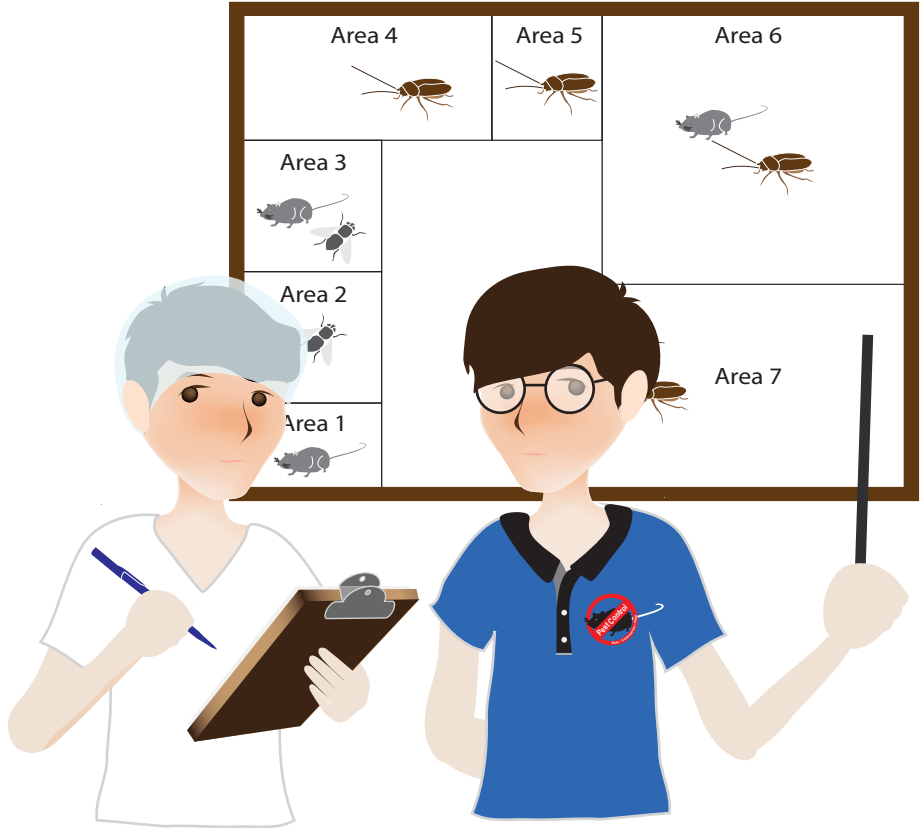
Contamination of food ingredients and products from pests could lead to food wastages.



Consumers' confidence in the company's food product quality will be affected.

WHO IS RESPONSIBLE FOR PEST CONTROL?

ZONE RISK MAP



Food operators and handlers are responsible for the pest control in their food establishments.

Pest control companies can offer professional assistance and complement the efforts in pest management.

TYPES OF COMMON PESTS



Pests are organisms which can transmit diseases or damage food supplies, equipment and structure of the premises.

Commonly found pests in food premises include rats, cockroaches and flies.

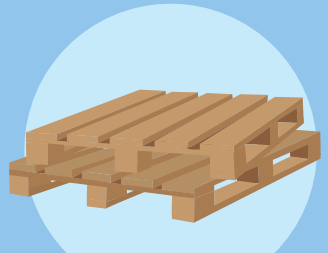
COMMON BREEDING AND HARBORAGE SITES



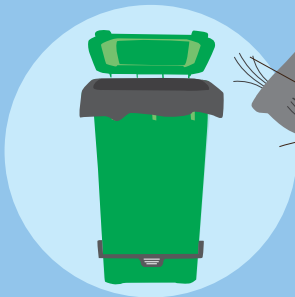
Cracks and crevices



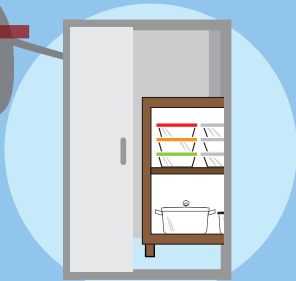
Gullies



Unattended items such as old pallets and equipment



Refuse bins



Food preparation and storage area

SIGNS OF PEST INFESTATION

Rats



Smear marks



Gnaw marks



Torn food packaging



Urine mark
(Visible under UV light)



Burrows



Live sighting



Droppings

Odorous smell

Dead bodies

Cockroaches



Cockroach egg cases



Droppings

Odorous smell



Live sighting

Dead bodies

Flies



Live sighting



Maggots and its
odourous smell

Dead bodies

ELIMINATION OF FOOD SOURCES FOR PESTS



Store food in covered containers or properly sealed packaging.



Maintain cleanliness of premises at all times.



Practise good refuse management.

ELIMINATE HARBOURAGE SITES FOR PESTS

Dispose empty carton boxes, unusable pallets, newspapers and other unwanted articles.



ELIMINATE ENTRY POINTS FOR PESTS

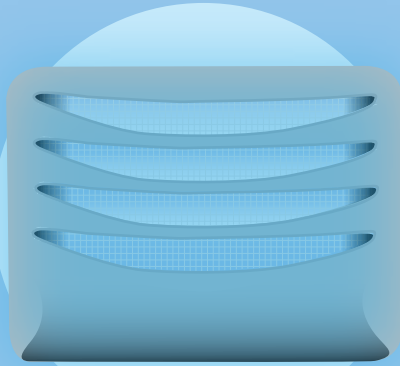


- 1** Ensure that floor traps, gullies and downpipe are properly covered with grating.
- 2** Install strong wire mesh at windows.
- 3** Install self-closing doors, air curtains or plastic sheets at the entrance to food preparation area.
- 4** Seal any holes or crevices in the ceilings, walls or floors. Void space above the false ceiling leading to adjacent neighbouring premises should also be partitioned.

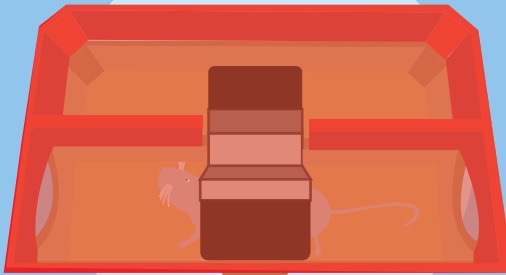
PHYSICAL PEST CONTROL MEASURES

Physical pest control measures are preferred as the use of chemicals increases the risk of food contamination at the premises.

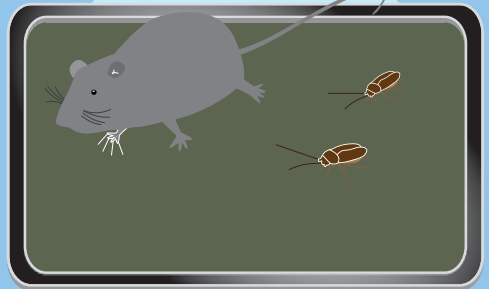
Inspect all traps daily. Examples of traps include :



UV-light fly trap with sticky trap



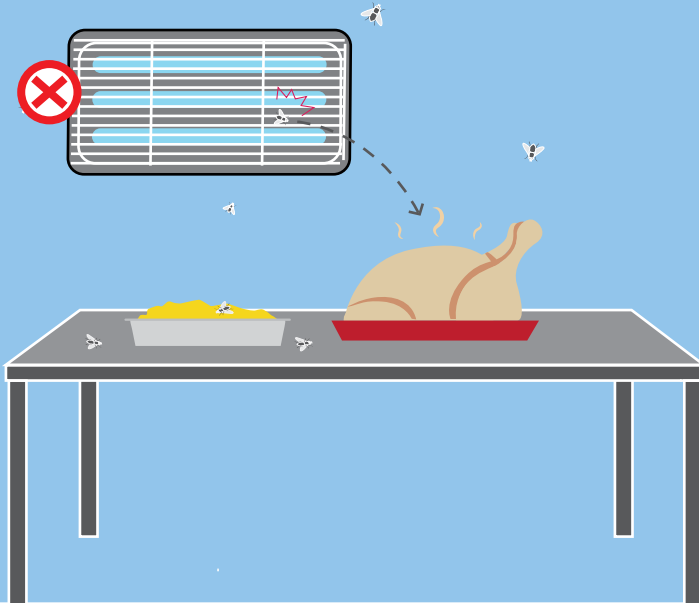
Live trap



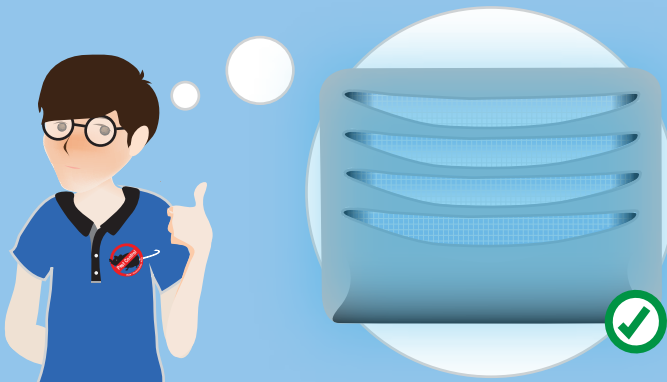
Glue board

POTENTIAL HAZARDS OF UV -LIGHT TRAPS

UV-light traps with electrocution grilles can disperse parts of dead insects into the air and onto food.



UV-light traps with sticky traps are a safer alternative.



CHEMICAL PEST CONTROL MEASURES

For some establishments, there is a need to adopt chemical measures to control infestation at the premises. Pesticides should be strictly handled by pest control operators due to the risk of possible food contamination and adverse health effects to the users.

Examples of chemical pesticides:

- 🎯 Rodenticides
- 🎯 Cockroach gel baits

POTENTIAL HAZARDS OF RODENTICIDE

Rodenticide should only be used in tamper-proof baits and placed along the perimeter of the food premises to prevent any contamination of food or food contact surfaces. Food contaminated with chemicals can lead to fatal food poisoning.



TIPS FOR SELECTING A RELIABLE PEST CONTROL OPERATOR



Engage a pest control company to provide a systematic pest management service which includes:

- Advise on pest control measures appropriate to the infrastructure of the food establishment to prevent harbourage and entry points of pests.
- Advise and implement pest management measures.
- Advise on the inspection and monitoring of pest situation within the premises.

Ensure the service terms in the contract include:

- Types of pest infestation that would be targeted, monitored and treated.
- Assurance for eliminating the targeted pest infestation.
- Provision of routine service reports.

HOW TO VERIFY THE EFFECTIVENESS OF PEST CONTROL ?

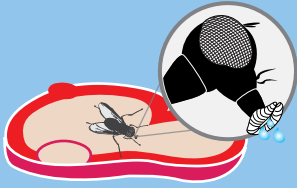
It is the responsibility of the food operators and handlers to:

- ✓ Inspect the premises regularly for signs of infestation and take immediate actions, which include notifying the pest control company, if any pest infestation is detected.
- ✓ Ensure the pest control traps are effective as advised by the pest control operator (e.g. adhesiveness of glue boards decreases as dust and dead insects accumulate over time).
- ✓ Review the pest control service reports regularly to ensure the implemented pest control procedures are effective in controlling or reducing the pest population.
- ✓ Establish regular communication with your pest control company and evaluate the effectiveness of the pest control measures implemented.

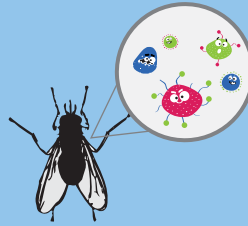


DO YOU KNOW ?

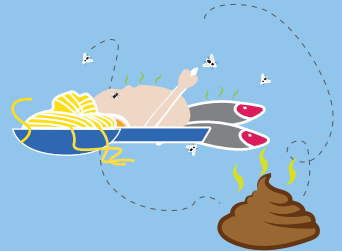
FLIES



Flies secrete their saliva onto their food to liquefy it before ingesting.

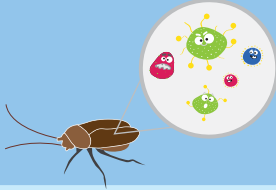


A single housefly has been estimated to carry more than 3 million bacteria.

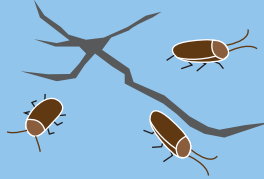


Flies transmit diseases through contact with fecal matter and decaying materials to food and food contact surfaces.

COCKROACHES



Cockroaches can transmit food-borne pathogens (e.g. *Salmonella* spp, *Staphylococcus aureus*) which are found in their guts and exterior surfaces.

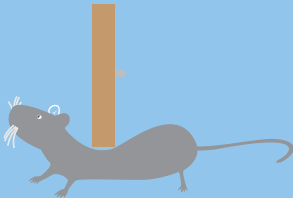


Cockroaches are nocturnal insects which like warm, dark and moist environment. They are usually found within cracks and crevices.

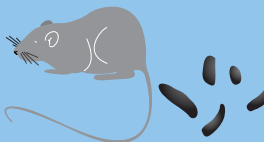


Cockroaches can eat almost anything and survive without food for an extended period of time.

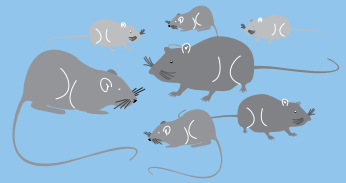
RATS



Rats are able to squeeze through a ½-inch gap. (e.g. gap under the door).



The average rat produces up to 40 droppings a day and produces about 50 liters of urine in a year. The faeces or urine of rats could contaminate surfaces and can spread diseases such as leptospirosis, salmonellosis and rat-bite fever.



Rats are prolific breeders. Certain species can produce off-springs all year-round. A mature female roof rat is capable of producing up to 6 litters (about 48 offsprings) in a year.

TIPS ON GOOD PEST MANAGEMENT PRACTICES

WANTED



Good Housekeeping

- ✓ Remove unused articles such as cardboard boxes and unwanted equipment.
- ✓ Cover or store all food items in sealed packaging.
- ✓ Maintain cleanliness of premises at all times.
- ✓ Ensure refuse bins are covered at all times and emptied on a regular basis or at least at the end of the day's operation.

Pest Proofing of Premises

- ✓ Check all raw ingredients to ensure they are not contaminated with pests.
- ✓ Ensure that all cracks, gaps and holes within the premises are sealed or repaired.
- ✓ Check that all air curtains, window screens and kitchen doors screens are in good working condition.
- ✓ Cover drains and drainage holes properly at all times.
- ✓ Check for signs of pest infestation within the premises.

Pest Management

- ✓ Check all pest bait stations or traps daily to ensure that there is no excessive accumulation of dust or dead pests.
- ✓ Follow up on findings and corrective actions stated in the pest control service reports.
- ✓ Engage a pest control company to complement the efforts in pest management.



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