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Common methods of rodent survey

Successful rodent control begins with survey(s). The purpose of conducting a rodent survey is usually to collect information necessary for the implementation of appropriate control measures in the particular situations. As none of the survey methods can by itself provide a complete picture of the infestation, multiple methods are often employed when conducting rodent surveys. **The following methods are usually used:**

Visual inspection:

Since rodents are usually active at night, we can only look for signs of rodent infestation during day time to trace the activities of rodents. Personnel conducting an



Droppings of Sewer Rat (Pest Control Advisory Section, FEHD)

inspection should have the knowledge and skill in detecting signs of rodent infestation. Apart from sighting of live or dead rodents, rodent droppings are a strong indication of current or recent rodent activity. The presence of rat holes/burrows, rodent smears (dirt

mark of grease with dirt, left by rodents upon rubbing), gnawing marks on objects, footprints and tail marks are also clues for past or present rodent activity. Rodent runways are indicated by a pathway with discrete absence of dust or dirt along floors or rafters (indoor), a smooth pathway with trodden vegetation (outdoor), or a pathway with other rodent signs. Urine excreted by rodents is fluorescent when exposed under ultraviolet light; and this can be used to detect rodent activity in some conditions.



Cage Trapping in Rat-flea Survey (Pest Control Advisory Section, FEHD)

Trapping:

This is a direct method to assess rodent problem. However, as rodents are neophobic, it may take days for a rodent to be captured. It is often easier to attract a rodent to take a piece of bait than to step onto a trap. Although break-back traps (snap traps) are relatively more effective than cage traps in capturing, such traps are more dangerous to use as they may easily cause harm to humans and other animals. Moreover, traps of different sizes are required for rats and mice. Cage trapping is commonly employed in rodent surveys when taxonomical or pathological examination of rodents is required. While a glue trap may capture both mice and small rats, it is often ineffective against adult rodents such as adult sewer rats. Its effectiveness in capturing rodents also depends on the ambient temperature and humidity as well as the quality of the glue.

Common methods of rodent survey



*A bait which has been gnawed upon by a rodent
(Pest Control Advisory Section, FEHD)*



*Footprints of House Mouse
(Pest Control Advisory Section, FEHD)*

Bait consumption:

Rodent activity could be detected when a piece of bait (usually placed on the ground or around a suspected rat hole) is consumed by a rodent. Theoretically, the percentage of baiting points in which the applied food bait is lost could reflect the degree of rodent infestation. But in urban areas, a loss of bait could be a result of cleansing, other human/animal activities, or weather.

“Test-hole”:

For survey purpose, suspected rat holes can be blocked with a loose material and checked after 1-3 days for re-opening, which can imply the presence of rodent activity. However, distribution of holes in urban areas or premises is largely uneven and sometimes in concealed sites. A search for the holes can be labour intensive

and experience is essential. This is nevertheless a useful method for areas where such holes could easily be observed, such as vegetated areas around rural villages, reservoirs or open areas. Caution must be taken in interpreting the results as some of the materials used for blocking suspected rat holes may be removed by people purposely or unintentionally.

Powder tracking:

Inert powder may be applied under walls or on areas with suspected rodent activities to record any footprint of rodents. The sensitivity of this method is greatly affected by weather such as wind, rain, humidity and temperature. In addition, disturbance by pest, human and other animal activities is possible; thus this method is more reliable for indoor use.

Gathering information from occupiers:

Occupiers may provide information on the history of the infestation and places where signs of rodent infestation have been seen. A questionnaire survey can be conducted for obtaining information on rodent activities from occupiers. Caution must be taken in analysing the information obtained as some of the respondents may have exaggerated their observations while some people may have tolerated a minor rodent problem. Besides, carrying out a questionnaire survey is labour intensive.

Approach taken by the Food and Environmental Hygiene Department

Having taken into consideration the behaviour of rodents and the local situation, the Food and Environmental Hygiene Department primarily adopts a census baiting method, which is an improved version of “**Bait consumption**”, in the Rodent Infestation Survey. The bait adopted for the survey is unattractive to other animals, which may coexist with the rodents in the target areas. Presence of a characteristic rodent gnawing mark instead of an absence of the bait is the criterion for defining a positive baiting point. **Visual inspections** are carried out in parallel with census baiting to confirm the presence of rodent problem and obtain more information on the causes of rodent problem. **Trapping** of rodents with cage traps would also be carried out for examination of live rodents. Pest control staff of the department also carries out **visual inspection** and **test-holes**, as necessary, for identification of rat holes in carrying out poison treatment against rodents.

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Common Pests in Office Setting

There are a number of pests commonly found in the office environment. The commonly found pests are mice, rats, cockroaches, fleas and psocids.

Mice and rats

Mice and rats can be found in the false ceiling voids, store rooms, shelves and pantries. They can cause physical damage to properties by gnawing building fittings. They sometimes bite electric wires, cables and computer components, thereby posing fire hazards due to short-circuiting. They also transmit rodent borne diseases such as murine typhus and Hantavirus infection.

Cockroaches

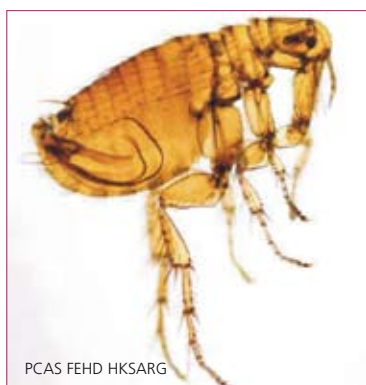
Cockroaches can be seen in pantries, cracks and crevices, drawers and store rooms. They hide in concealed locations. They and their faeces may cause allergic reactions to humans and damage food as well as papers. They are also carriers of diseases.



Rat



Cockroach



Flea



Psocids

Fleas

Fleas bite humans. They can spread diseases and are also a nuisance to people. They can be found in carpets, cracks and crevices in walls and floors, store rooms and shelves. They can be found even in the false ceiling voids especially where there are rodent activities.

Psocids

Psocids are small and soft-bodied insects, most of which are less than 6 mm long. Numerous psocids can be found on walls, wooden shelves and papers especially in humid weather in spring. They are a nuisance to staff in the office although they do not bite people.

Pest free office setting

Pests cause damage and discomfort. They are also a nuisance and can be carriers of diseases. Employees are not happy to work in a place with pest such as rodents and cockroaches. A pest free office setting provides a safe and comfortable environment to the employees.

Environmental improvement tips to prevent pests in the office are as follows —

1. Be sure that all food spills are cleaned up at once.
2. Empty the refuse bin daily and no left-overs are kept overnight in it.
3. Keep microwaves, ovens and refrigerators clean in the pantry.
4. Keep all food in tightly sealed rodent-proof containers.
5. Seal cracks and crevices.
6. Fix all water leaks.
7. Leave work areas and desks cleared from debris.
8. Clean the carpet at least quarterly.
9. Examine and clean the space above the false ceiling at least annually.
10. Keep the office clean and tidy.

A pest control company can be appointed for provision of professional services on pest control.