

RODENTS IN FOOD PREMISES – DETAILED INFORMATION

WHY ARE RODENTS (RATS AND MICE) A PROBLEM?

- Spread disease
- Contaminate food
- Cause damage
- Lose you customers and profits
- Risk of prosecution and closure

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WHY ARE RODENTS (RATS AND MICE) A PROBLEM?

1. *Rodents spread disease...*

Rodents are attracted to environments/habitats that give them food, warmth, harbourage (protection) and moisture or water. Such environments will include refuse storage areas, drains and sewers, farms – and, of course, food premises! In these environments, rodents can easily pick up pathogens (harmful germs) and spread them onto food either directly, or indirectly by contaminating food contact surfaces such as worktops or food containers. They do this via their faeces, urine or body/tail.

Rodents can spread a wide variety of diseases that can harm humans. These include:

- Food poisoning (e.g. food poisoning bugs such as *Campylobacter*, *Salmonella*, *E. coli*, *Listeria monocytogenes*, *Yersinia enterocolitica*)
- Weil's Disease (Leptospirosis)
- Trichinosis
- Cryptosporidiosis

Detailed information on this subject is contained in the document 'The spread of foodborne pathogens by rodents', available on the Council's Food Matters website

2. *Rodents physically contaminate food...*

Rodent bodies, droppings, urine and hair have all been known to physically contaminate foodstuffs. Rats and mice, for example, continually dribble urine when they move about, and can pass faeces in any area they visit. The results of such contamination are often difficult to remove, resulting in the food becoming unfit for human consumption. Vast quantities of food and materials can be lost in this way.

3. *Rodents cause damage to food, goods and structures...*

Rodents will consume a wide range of foods, ranging from chocolate and nuts, to grains, cereals and meat/fish for example. They also attack non-food products (e.g. pipes (even lead ones!), plaster, hoses) which they do in order to wear down their incisor teeth which grow continually. Rodents also frequently attack electrical wiring, resulting in electrical failures and fires. Burrowing by rodents can also cause the collapse of sewers and subsidence to structures.

4. Rodents lose you customers/staff...



Loss of customers (and consequently profits) can arise from selling contaminated food that leads to complaint, or from incidents where customers have seen live rodents on food premises. Staff may be reluctant to work in premises where rodents are active.



5. Rodents can lead to prosecution and a fine...

It is a legal requirement to protect against the risk of contamination from pests. Failure to do this could result in prosecution, a fine and the closure of the food business.

KNOW YOUR FOE!

The following table highlights the main (distinguishing) characteristics of the common rat and the house mouse. *All images reproduced with the kind permission of Rentokil Initial.*

| | Common Rat (<i>Rattus norvegicus</i>) | House Mouse (<i>Mus domesticus</i>) |
|---------------------------|--|--|
| |  |  |
| Colour | Brown/grey shaggy fur with lighter underside. | Brown to grey with lighter underside |
| Ears | Small | Large |
| Eyes | Small | Small |
| Tail | Shorter than head and body, dark above & lighter below. | Slightly less than head and body |
| Weight (adult) | 100-500 g | 10 – 25 g |
| Population & Reproduction | <ul style="list-style-type: none"> • 4-6 litters/year, litter size being between 6-11 • Reaches maturity in 2-3 months • 1 pair of rats can produce 1000 offspring in a year! • May live for up to 12 months | <ul style="list-style-type: none"> • 5 – 10 litters a year, litter size being 5 - 6 • Reaches maturity in 6 – 8 weeks • May live for 3 – 4 months |
| Habitat | Widespread both indoors and outdoors; also found in drains & | Common in wide range of buildings; may live |

| | | |
|-----------------------|--|---|
| | sewers. | outdoors for part or all of the year; NOT found in sewers |
| Food & Feeding | Wide variety – including cereals, grain, waste food from garbage | Very wide variety – eat many of the same foods as man. |
| Droppings | 12 mm long, 'spindle shaped' i.e. taper to a point at one or both ends  | 3 –7 mm long; may be spindle shaped  |
| Behaviour | <ul style="list-style-type: none"> • Good jumper (to height of 70 cms) & climber (up rough vertical surfaces, against pipes, inside pipes if diameter is less than 10 cms) • Mainly active at night • Active burrowers • Good swimmer, found near ditches, streams & in sewers | <ul style="list-style-type: none"> • Good climber; can climb vertical surfaces if sufficiently rough • Tend to avoid wet conditions but can swim if necessary |
| Other characteristics | <ul style="list-style-type: none"> • Must have access to water (e.g. from dripping taps, blocked drains, puddles, condensation) | Can survive on very little water - indeed can live without drinking water when the moisture in its food is 15% or above |

HOW TO DETECT THE PRESENCE OF RODENTS

The following are signs of rodent activity and can be used to indicate the size and extent of an infestation and aid the identification of the species involved.

| | |
|---|---|
| <p>Sightings – if live rodents are seen frequently during the day it may indicate that a large infestation is present, or that their environment has recently been disturbed.</p> |  |
| <p>Droppings – soft and shiny when fresh, becoming hard & dull within a few days - this may help you establish if the infestation is a current one. Droppings can be found in any area but are frequently concentrated in favoured places such as corners, crevices between packages, tops of walls.</p> |  |
| <p>Urine pillars – these are indicators of long-established infestation by house mice and comprise small mounds (pillars) of grease, dust & urine.</p> |  |
| <p>Runs – characteristic well-worn pathways, near or under cover</p> | |
| <p>Footprints and Tail Swipes – especially visible where rodents have been moving over dusty or muddy surfaces</p> | |
| <p>Smears – dark coloured patches on walls, pipes, beams etc. along rodent travel routes arising from grease and dirt on the rodent's fur.</p> |  |
| <p>Harbourage, burrows and nests – in buildings, harbourage can be found virtually anywhere, but particularly dead spaces and undisturbed areas. If sacking, paper or packaging is seen to be gnawed this may indicate a nest is being made.</p> |  |
| <p>Damage to Goods and Structures – often the first clear evidence of rodent activity is finding partially eaten, spilled or hoarded food, damaged packaging materials and other recent signs of gnawing.</p> |  |

KEEPING RODENTS OUT OF FOOD PREMISES

To prevent an infestation at your food premises, you need to do 3 things:

1. Deter rodents

You can deter rodents by denying them the things that attract them to your premises (i.e. food, water and shelter) by good housekeeping – keeping all parts of the premises are clean and tidy.

- For food, this will mean clearing up spillages promptly, effective cleaning of all food areas and suitable storage of food in rodent-proof containers. It essential to prevent access to food, particularly at night.
- All avoidable sources of water (dripping taps, leaking roofs/gutters, blocked drains, refrigerator condensation) should be put right immediately.
- Shelter for rodents can be prevented by the removal of redundant equipment and the proper storage of all equipment and materials (avoiding cavities and hard-to-reach areas). This allows access to all areas for inspection/monitoring. There should also be proper storage and regular disposal for refuse/waste. All outside areas should be kept tidy and any vegetation kept short.

2. Rodent-proof your premises

Rodent-proofing is nothing more than ensuring there are physical barriers at specific points of the environment where rodents are most likely to gain access to a building. These include:

- Sewers/drains:
 - water seals to WC interceptor traps must be kept intact
 - foul drainage pipework and inspection (manhole) chambers to be maintained in good repair & any damage rectified quickly
 - prevent any entry via ventilation and rainwater pipes by fitting wire balloon guards
- External surfaces:
 - fitting 20-gauge metal guards around pipes that are close to walls
 - preventing disrepair or defects in doors, windows, air-bricks, ventilators
 - all doors to be close-fitting and kept closed unless in use
 - ensuring no holes are left around service pipes etc, and that if any pipe is removed, the hole is sealed up immediately.
 - any required opening into a premises (e.g. air brick) should have gaps no bigger than 6 mm. A rule of thumb is that if a standard biro/pencil can go through a gap, a small mouse could also.
 - gaps under doors should likewise be kept below 6 mm; rubber or brush strips may be fitted to the bottom of doors to help achieve this
 - fitting a 30 cm, 20-gauge metal 'kicking plate' to the bottom of the outside of a door will prevent it being gnawed
- Deliveries
All deliveries of goods and raw materials should be checked on arrival and before they are stored to ensure they are free from infestation and any evidence of rodent activity.

3. Survey Premises Regularly

To ensure your premises are rodent-free you should carry out regular surveys/checks, focussing particularly on food storage rooms, behind equipment, in less accessible/undisturbed places and in waste storage areas. Lighting levels are important, and a torch may be useful in this regard for certain areas. These checks may be something you may want to record and keep as part of any due diligence defence.

Effective pest control is a specialised field requiring knowledge and expertise, and you may wish to use the services of a Pest Control Contractor to provide a monitoring and, if necessary, treatment service for you. Links to help you find a suitable pest control contractor can be found on the Council's Food Matters website.

If you suspect you have a problem with rodents a way to confirm an infestation is test bait in all food rooms. Foods like a biscuit or a few blocks of chocolate can be placed on the floor in corners and checked regularly to make sure that it is still there (i.e. not eaten completely) or nibbled by rodents. If these tests prove positive, and a rodent infestation has arisen on your premises, it must be eradicated as a matter of urgency. We would recommend that you always use a professional pest control contractor.

ERADICATING RODENT INFESTATIONS

Rodents can be destroyed by physical or chemical methods.

Physical methods have a part to play in rodent control, particularly for controlling very small infestations in circumstances where the use of rodent poisons may be unacceptable. The pest itself is caught and is therefore unable to contaminate food by dying amongst foodstuffs, equipment, containers etc, or dying in some inaccessible place and perhaps causing smells and flies.

Methods include:

- spring-loaded break-back traps – probably the most widespread and successful trapping technique. Careful placement is required, usually across a rodent run. Should be visited at least every 24 hours to remove any dead rodents and ensure that no rodents are being held injured but alive.
- sticky boards – stable/secured boards spread with a specially formulated glue on which rodents become stuck. Rodents can then be humanely dispatched and removed. Must be visited regularly (several times a day) for humane reasons.

Physical methods are unlikely, however, to be able to contribute much to larger scale infestations as their effect may be too slow and ineffective. For example, many rodents exhibit trap-shyness behaviour that may limit trap usefulness.

Chemical methods (sometimes supplemented by trapping) are therefore preferred where the infestation is more significant. Chemical control is achieved by the use of chemical poisons that kill rats and mice – rodenticides. These are usually incorporated into edible baits (usually cereal) and liquids, but can also be formulated into dusts, gels and wicks.

'**Acute**' rodenticides are those where a single dose is sufficient to kill. To get round problems of bait-shyness or rats avoiding new objects in their environment these types of baits are often used after pre-baiting with plain cereals.

'**Chronic**' rodenticides (based on anticoagulants) produce symptoms that are slow to appear in the rodent, and therefore are not associated with the baits in the premises. Bait shyness does not therefore become a problem and there is no need for pre-baiting. Rodents keep feeding daily (for up to 5 consecutive days) until a lethal dose has been absorbed.

Rodenticide poisons can be incorporated into 'contact' dusts. These are laid in patches on 'safe' rodent runs. As the rodent runs through the dust it collects on its fur and during subsequent grooming (cleaning itself by licking) the poison is inadvertently swallowed. Great care must be taken in their use due to the risk of contamination of adjoining surfaces – they should, therefore, never be used in food rooms or where food, equipment or materials may be contaminated.

Rodenticide Safety

It should be remembered that rodenticides contain toxic chemicals and should therefore be treated as hazardous. No eradication treatment should be attempted by untrained personnel. **It is strongly recommended that proprietors should seek the services of a professional, specialist pest control contractor should they have a pest problem at their premises.**

Where an eradication treatment is being carried out, it is essential that all staff are made aware of the measures being taken, the location of the baits that have been laid and all relevant safety and hygiene precautions to prevent the risk of contamination and to ensure the success of the treatment.

USING A PEST CONTROL CONTRACTOR

A professional pest contractor should work to a contract that covers issues such as preventive measures, reporting procedures, accountability and records/documentation. The benefit from such an approach is that it should provide appropriate evidence for a defence of 'due diligence' against prosecution.

Pest control providers range from large multinational companies to small businesses operating locally. They can be located through business and telephone directories, specialist publications and trade associations. Details of local pest control contractors may also be available from the Council's Pest Control Service – unfortunately, the council itself will not provide pest control services in food premises and makes no recommendations for any specific private contractor.

Obtaining The Right Pest Control Service

Pest control contracts can be arranged for a variety of circumstances ranging from one-off contracts for the control of occasional infestations through to

larger and longer-term contracts. Should you wish to use a pest control contractor the following guidelines (*courtesy of Bayer Environmental Science*), which are not exhaustive, will help in the selection of a professional pest control contractor and establishment of a pest control contract.

A professional pest control contractor should be able to satisfy the following requirements:

- **Experience.** Demonstrate experience in the provision of an appropriate pest control service (or at least advice) on non-chemical as well as chemical methods of control. Contractors may be members of recognised trade associations (e.g. the British Pest Control Contractors Association – BPCA) whose terms of reference seek to ensure members can provide a consistent and high level of service.
- **Suitably qualified.** The provider should be adequately qualified with a knowledge of relevant legislation governing pest control and the use of pesticides.
- **Technical resources.** The provider should be able to demonstrate sufficient technical resources to meet the demands of the task in hand.
- **Survey and reporting service.** Resources should be available to provide a full survey of the infestation and progress in its control with adequate reporting. In the food industry this may involve working with food business operators as they seek to conduct and implement the results of Hazard Analysis and Critical Control Point (HACCP) risk assessments.
- **Terms.** A firm quotation of terms of the contract and cost should be available. The contract terms should be clear. More advice on contracts is given below.
- **Adequate business standing.** The provider should be able to demonstrate the existence of adequate insurance cover (public/product/employers' liability), and financial stability.
- **Testimonials.** The provider should be able to furnish references from existing clients.

Advice on Pest Control Contracts

An essential part of securing the right pest control service may involve the development of an appropriate contract. In that case, the following points might merit consideration:

- **Define qualifications of service provider.** The qualifications of the provider should be defined in terms of competence, business standing etc; i.e. can the provider meet the relevant requirements of the first part of this advice listed above.
- **Pests.** The pests which are to be the subject of the contract should be defined.
- **Standard of control.** An acceptable standard of pest control must be defined for the various areas covered by the contract. "Riddance" is a useful criterion and can be defined as: "achieving the best level of control or eradication which is technically and practicably possible".
- **Visits.** The number of visits of the provider required and their purpose should be defined. These may include visits for the purpose of Risk

Assessment, Routine control procedures, Emergency response (a time should be defined), Technical Review and Quality Assurance Inspections.

- **Special considerations.** Special requirements should be identified. These may include details regarding training, access to the client's premises, special clothing requirements and other limitations relevant to the pest control operation.
- **Pesticides.** The client may wish to specify pesticides which should not be used under the contract or, conversely those which should. In any case the pesticides should only be those that are legally permissible.
- **Reporting.** The keeping of reports is an essential part of pest control. The actual reporting requirements for a particular contract should, however, be defined.