

House mice: options for management and control

House mice *Mus domesticus* are well adapted to living in close contact with humans and thrive in the conditions that man provides, particularly where hygiene and house keeping standards are low. They can cause extensive damage to property as a result of their gnawing activities, and also by eating and contaminating food. Mice may carry a number of infectious diseases that can pose a risk to humans and animals. Where problems arise, it is important that house mouse infestations are controlled.

Description and behaviour

Not all the mice that are seen in houses or other premises are house mice. Wood mice *Apodemus sylvaticus*, which live predominantly in hedgerows, banks and woods, may also enter buildings, particularly in rural areas during the autumn, and so it is useful to be able to tell the difference between the two species.

Domestic mouse

The house mouse is usually a uniform grey colour although sometimes the lower half may be a slightly lighter shade. In some cases, the grey may be quite dark. Adults range from about 7 to 9 cm (2¾ to 3½ in) length (not including the tail).

Wood mouse

The wood mouse has an orange-brown back and white underparts, with a clear dividing line between the two. The adult is larger than the house mouse, and ranges from 8 to 13 cm (3 to 5 in) length (not including the tail).

Disease risk and damage

House mice are able to live in almost any available space. They can squeeze through extremely small openings, living and breeding under floors, in cavity walls, ceiling voids and behind skirting boards.

House mice will contaminate the environments in which they live with urine, droppings and hairs. They can carry a wide range of diseases which can be passed on to humans, either by directly contaminating food with droppings and urine or, by contaminating surfaces. In food business premises, contamination of food for human consumption would result in failure to comply with hygiene requirements such as those contained in the Food Safety (General Food Hygiene) Regulations 1995.

They can also cause extensive damage to property. They are capable of gnawing a range of materials. There is a significant risk of fire and electrocution as a result of mice chewing through electric cables and wiring.

Prevention of damage

By ensuring that homes and work places do not provide suitable environments for mice to live and breed, it is possible to prevent or at least reduce the chances of mice becoming established and causing damage. Two of the most important areas to consider in this respect are proofing and hygiene.

Proofing

Preventing mice from gaining access to buildings will reduce the chances of them moving in and becoming established. Buildings can be proofed by blocking openings through which mice can enter. Check that air bricks are in place and intact

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(do not block them), and inspect for access points around gas, electricity and water pipes. Check that doors fit tightly.

Such action helps to prevent mice entering from outside and will limit their movement between properties.

Hygiene

Improved hygiene will restrict the availability of food for mice, reducing the chances that they will remain at that site and breed successfully.

Examples of how hygiene can be improved are:

- keeping food in mouse proof containers;
- sweeping up any spillages as soon as they occur;
- not leaving food intended for pets lying around;
- removing rubbish and other materials that can be utilised by mice; and
- cleaning up under work units and other areas where food residues can accumulate.

Control

House mouse problems will sometimes occur despite hygiene and proofing action. In such circumstances, it will be necessary to take control measures in order to eliminate the infestation. There are two methods of control available:

- trapping
- poison baiting.

Trapping

Traditional break-back traps can be used successfully, particularly if there are only a few mice involved. To be effective, they must be sited and set correctly. They should be placed about 2 m (6 ft) apart, or closer if circumstances require, and in areas where the mice are known to be moving. Mice tend to move along the base of walls, so the trap should be positioned with the baited or treadle end of the trap against a wall, across the routes that the mice will be using.

Place the trap in a position where it cannot be accidentally set off by children or pets but allow sufficient space around the trap to enable it to function without catching on any obstructions.

Baits do not have to be used on the trap in every case but are sometimes beneficial. Cheese is not necessarily an ideal bait. Consider using foodstuffs on which the mice are already feeding. Examples of suitable baits include biscuit, porridge oats, other cereals and chocolate.

Check the traps daily until no more mice are caught and activity ceases. If a mouse is found alive in a trap, kill it quickly with a blow to the head. Dead mice should be disposed of safely. When handling rodent carcasses always wear waterproof gloves to protect yourself from disease.

Poison baiting

A range of rodenticides is available for use against mice. It is important to always read the label and follow the instructions so that treatments are undertaken safely and effectively. Users should ensure they are competent and adequately instructed in all aspects of rodenticide use.

Most of the products available are based on the second generation anti-coagulant compounds bromadiolone and difenacoum. Due to problems with resistance, the first generation rodenticides including Warfarin and chlorophacinone should not be used against house mice.

Some products can be purchased from garden centres, hardware shops and agricultural merchants. Cellulose-based products (which interfere with rodents' water absorption, thus causing dehydration) are also available. Products containing flocoumafen are not available to amateur users. Products containing alphachloralose may be effective when used in cold situations.

Mice are inquisitive animals and like to feed from a number of different places, rather than taking all their food from a single source. Therefore, providing the label instructions can be complied with, small amounts of bait should be placed at a large number of locations. This is more likely to result in effective control than restricting baits to only a few points.

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Regularly inspect baits and replace any that have been eaten. It may take several weeks to achieve effective control.

Safety precautions

Anticoagulants and other rodenticides are poisonous to humans, livestock and wildlife as well as to mice. Always read and follow label instructions before use.

When handling any pesticide, use appropriate protective clothing and equipment, as indicated on the product label instructions. If you think that you have become ill as a result of handling rodenticides, seek medical advice immediately. Keeping a record of which rodenticides have been used provides important information for medical and veterinary services. Where appropriate, inform site occupiers or others of the measures that have been taken and the action required in case of accidental poisoning.

When using rodenticide concentrates, do not be tempted to increase the concentrations of rodenticide in baits. This is illegal and likely to reduce the palatability of baits, and it poses a greater risk to non-target species.

Ensure baits are placed so that they are not accessible to children and animals; all reasonable precautions must be taken to ensure that livestock are kept away from treatment areas. Pigs and dogs are especially prone to poisoning by anticoagulants.

When treatments are completed, all uneaten bait should be disposed of safely according to label instructions. Dead rodents should be disposed of in a similar manner. Amateur users, including householders, should double bag spent bait and rodent carcasses, put these plastic bags in a rigid container and then place the package in a bin or sack for collection as refuse. Where rodenticides are used in connection with a business or by professional users, rodent carcasses and bait residues must be treated as controlled waste. Disposal requirements include suitable packaging of these materials and arranging for their disposal at a recognised landfill or other disposal facility. This action has to be documented by the use of an appropriate consignment note. When handling rodent

carcasses or rodenticide always wear waterproof gloves to protect yourself from disease and pesticide contamination.

Rodenticide baits should be kept safely locked away, and any equipment used to mix or dispense bait should be washed after use. Empty containers should also be washed out thoroughly and disposed of safely. Avoid contamination of ponds, ditches or waterways.

Legal aspects

Under the Prevention of Damage by Pests Act 1949, local authorities are responsible for ensuring that their districts are kept, as far as is practicable, free of rodents. In addition, the Act requires that occupiers of non-agricultural land must notify the local authority if 'substantial numbers' of rodents are living on or resorting to the land. There is no requirement, however, for occupiers of agricultural land to notify the local authority of the presence of rodents. The Act gives local authorities the power to require landowners and occupiers to control rodent infestations on their land. Local authorities can also, where necessary, carry out the control work in default and recover the cost of such action from the landowner or occupier.

The Health and Safety at Work Act 1974 places responsibilities on employers regarding the health and safety of their employees. This Act also requires employees to work in a safe manner.

The Control of Substances Hazardous to Health Regulations 1994 (COSHH) require that an assessment is made of the risks to human health that may arise from contact with rodents and the use of pesticides. Suitable precautions must be taken to prevent or control any risks.

The Food and Environment Protection Act 1985 places a general obligation on all users of pesticides to take all reasonable precautions to protect the health of humans, creatures and plants, to safeguard the environment and, in particular, to avoid the contamination of water.

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The Control of Pesticide Regulations 1986 prohibits the use of a pesticide unless it has been approved. All users of pesticides must comply with the statutory conditions of use shown on the product label.

Further information

If you have a mouse problem that you do not wish to deal with yourself, contact the Environmental Health Department of your local authority or call in a pest control company.

In England, further advice on dealing with rodent problems, as well as problems caused by other mammals and birds can be obtained by contacting Natural England's Wildlife Management & Licensing Service at:

Wildlife Licensing Unit, Natural England, Burghill Road, Westbury-on-Trym, Bristol, BS10 6NJ
Telephone: 0845 601 4523 (local rate)
E-mail: wildlife@naturalengland.org.uk

A range of leaflets on wildlife topics is available online at:

<http://www.naturalengland.org.uk/conservation/wildlife-management-licensing/default.htm>

Natural England Technical Information Notes are available to download from the Natural England website: www.naturalengland.org.uk.

For information on other Natural England publications contact the Natural England Enquiry Service on 0845 600 3078 or e-mail enquiries@naturalengland.org.uk