



Rats & Mice

Information Sheet



Rodents carry disease causing organisms such as: Leptospirosis, salmonella, typhus and ringworm. They spread disease by feeding and urinating on stored products and contaminating food with droppings. They are attracted to virtually any structure that has food preparation or storage areas due to the abundant food and shelter.

There are over 500 rat species and 250 kinds of mouse that inhabit the world. Two rat species and one type of mouse constitute the total pest species. Rats and mice are pests because they live closely to humans and cause a number of problems.

The pest species are *rattus rattus* (ship rat, black rat, roof rat), *rattus norvegicus* (brown rat, common rat, norway rat) & *Mus musculus* (house mouse). They have become pests because they are dependent on humans for food and shelter (commensal).

IDENTIFICATION

Rats and Mice are mammals that belong to the order Rodentia (rodents), from Latin *rodere* 'to gnaw'. This is attributed to the main characteristic of all rodents, being their teeth and their gnawing habit. They gnaw to control the size of their chisel shaped incisors located on their upper and lower jaws.

The most common rodents are the Norway rat, Roof rat and House mouse.

Characteristics of the Norway rat are: weight of 450g, heavy set body, has a blunt nose and has course, red-brown hair. The Roof rat is 260g, slender, has a pointed nose and fine grey, black or brown hair.

WHERE DO RATS & MICE LIVE?

Rats and mice live and nest in and near buildings where they have access to food, water, and shelter.

Rodents live in groups and may nest outdoors in burrows adjacent to waterways, under buildings, in trees and vines, in garbage dumps, in rubbish heaps and in other places which provide food and shelter. They can nest indoors in wall cavities, under floors and with stored foods. Rodents can damage insulation cables, electrical wiring, wood and other materials. Their sharp teeth enable them to gnaw through aluminum, lead, wood and cardboard.

Rats and mice are creatures of habit and therefore tend to use the same routes of travel from food sources for as long as possible.

Inspect all rooms of the house for signs of mice. You may find droppings and nesting material behind furniture, which is not often shifted or in drawers or cupboards not often used.

PEST SPECIES:

It is important to correctly identify the species so effective control programmes can be designed to suit the behavior patterns of the species.

Roof Rat - (*Rattus Rattus*)

(Also known as the black rat and ship rat)

The Roof Rat is the smaller of the pest rats and is of slighter build.

It has a more pointed snout, large prominent ears and a longer tail than its body length. It normally lives 9-12 months and may have 4-5 litters per year (each with 6-8 young). The young achieve sexual maturity at 3-4 months.



The Roof Rat is often restricted to the indoors of premises and to areas around seaports. While Norway Rats are very suitable to rural life, where burrowing is advantageous, Roof Rats tend to be more restricted to city life, where their excellent climbing abilities avail them of numerous nesting sites often in the upper parts of tall buildings. This ability also facilitates their crossing from one building to another via connecting cables. Within buildings, Roof Rats are likely to nest in wall and roof voids, but they may range and feed freely all over the building. Outdoors they may nest among vines and trees, but they seldom burrow. They commonly infest ships.

Although Roof Rats are usually described as omnivorous, in practice they seem to consume a high proportion of vegetable and fruit material. Where they have ready access to foods with such a high moisture content, it is likely that they have a much reduced need for free water.

The Roof Rat can live in somewhat similar locations to those preferred by the Norway Rat; but if territories overlap, it is likely that the Roof Rat will be driven out.

Norway Rat - (*Rattus Norvegicus*)

(Also known as the common rat, sewer rat, brown rat and water rat).

The Norway Rat is the larger of the pest rats and has a thickset body, blunt snout, small close-set ears and a tail shorter than the length of its body. It normally lives 9-12 months and may have 5-6 litters per year (each with 8-10 young). The young achieve sexual maturity at 3-4 months. Clearly, its reproductive potential is very high.



The Norway Rat is very widespread in Sydney, and is possibly the most economically detrimental pest rodent in Australia. It infests warehouses, factories, flour mills, poultry farms, garbage dumps, shops, supermarkets, domestic premises, grain storage facilities, sewers and many other locations that offer shelter and food. Outside buildings, these rats mostly live in burrows, which tunnel into stream banks, under buildings, under rubbish heaps and so on. Burrows commonly have 'bolt holes' hidden under debris or grass to facilitate fast emergency exits. They may enter buildings just for food, reside in buildings during the colder winter months, or live in buildings all year round. Nests in buildings are mostly located in wall voids, roof voids and other parts of the construction that offer a secretive, undisturbed area for shelter and access to food and water.

Norway Rats are typically omnivorous in their feeding habits and will eat all human and animal foods and feedstocks. They do need regular access to liquid water; so in conditions where their food is low in moisture and available water is minimal, liquid bait preparations may be effective.

Norway Rats are very much creatures of habit, and once they have explored a new environment, they establish quite rigid traveling routes. Being neophobic, they may take some days to adjust to new objects such as bait stations and traps.

In cases where the territory of Norway Rats overlaps that with other rodent species, it is entirely likely that the Norway Rat will become the dominant species, often driving others out of the area.

House Mouse - (Mus Musculus)

(Also referred to as the field mouse)

The House Mouse is small and has rather large ears, a pointed snout and a tail at least long as its body length. House mice living indoors are usually a darkish grey colour, with lighter grey on the belly, while those living mainly outdoors tend to a more sandy or yellow brown colouring - hence the reference to 'field mice'.

They tend to live for about 1 year and may have 6-10 litters per year (each with 5-6 young). The young achieve sexual maturity at about 6 weeks.

The house mouse may live indoors or outdoors, sometimes entering buildings only when climatic conditions are adverse. Being such small animals, their access into buildings is probably easier than is the case for rats and a greater range of nesting sites is available to them. Typically, within buildings they may nest in wall voids, cupboards, roof voids, stored foods, furniture and many other locations. Outdoors they live in burrows.

In their general behavior, mice are much more curious and exploratory than rats. They are very good climbers, jumpers and swimmers, although they do not seem to swim very often.

In their feeding habits, mice are generally regarded as being quite omnivorous. A variety of foods (eg. nuts, grains, meat and animal feeds) may all be acceptable on baits or traps, depending on the main diet of the resident population. They are well adapted to low water intake and can live on just the moisture in grain without any supplementary intake of water. Preferably though, they seem to enjoy dry cereals if free water is available.

Mice feed mostly around dusk and during the night, but if the area is relatively undisturbed, they may feed during the day as well. They seem to prefer to eat small amounts of food at various locations and at frequent intervals. Even though they do not directly consume large amounts of food, damage due to gnawing, nibbling and contamination with urine and faeces can be very widespread. In most cases, mice are not as suspicious of new food (baits) as rats.

In rural areas the occasional combination of mild weather, abundant food and shelter, and a reduction of natural enemies may cause mice to multiply to plague proportions, and then to migrate. Massive migrations can cause very significant damage and losses to farms and other buildings.



Spot the rodent.

The following are 'signs' that indicate rodents are present:

- Droppings.
- Debris like snail shells with the sides eaten out, cape lilac berries, left in the corners of sheds, under homes and other secluded spots.
- Signs of fruit and vegetables being eaten.
- Greasy rub marks along paths they travel.
- Burrow holes around buildings.
- Signs of gnawing damage.
- Pet dogs, cats, birds being more excitable than usual.
- Squeaking, gnawing or movement noises in walls, cupboards and ceilings and under floors, especially at night.

Avoiding rats and mice problems.

Rats can be discouraged and controlled by denying them food and shelter. A few simple precautions will prevent or help get rid of them:

- Store firewood away from the sides of sheds and fences and keep it well clear (40cm) of the ground.
- Regularly remove or limit garden waste or other disused material in sheds or around your yard.
- Remove fruit and nuts from trees or vines at the end of the season.
- Block holes and other potential access points around all buildings.
- Keep pet food dishes clean and store bulk pet food supplies in a manner which denies access to rats.
- Rubbish bins and compost containers should be well maintained and free from holes. Meat scraps must never be composted.
- Thoroughly examine your property to ensure you have discouraged rats from making your home their home.