

PLAYING CAT & MOUSE

Can your pet help you to combat rodents?

We've all heard the saying, 'When the cat's away, the mice will play.' But most of us are far more interested in what happens when the cat is at home. Are either Tom or Jerry effective deterrents? And what about Butch – are dogs any better at keeping your property rodent-free?

MARKtoe! has some answers to your questions. And we've figured out a five-step program for you to get rid of rats and mice – permanently.

By Anna Mouton

OF MICE AND MEN

Humans first began living in settlements toward the end of the last Ice Age. They were immediately joined by mice. The house mouse (*Mus musculus domesticus*) originated in the Levant, in villages created by hunter-gatherers long before the advent of agriculture. The hunter-gatherers became farmers, then traders, then travellers. Soon humans spread across the globe and mice went along for the ride. Mice – and rats – travelled along with humans by land and sea until they too could be found everywhere.

Like the house mouse, cats were domesticated in the Levant. Mice and refuse heaps attracted wild cats (*Felis silvestris lybica*) to villages. Within a few thousand years, the Egyptians adopted the goddess Bastet as their official deity. She was first shown as a lioness warrior, but this changed to a cat. Rats and mice were a big problem in the grain stores of ancient Egypt and cats were greatly valued as pest controllers. Dogs, on the other hand, were associated with jackals and scavengers.

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By the eighteenth century, we find that some dogs that were bred specifically to kill vermin – rats, rabbits, and foxes. Foremost among these are the terriers. Terriers and dachshunds will pursue their quarry down burrows whereas Airedale terriers can take on river rats in deep water. People used to hold contests in which terriers had to kill as many rats as possible in a limited time. The record was set in 1862 by a bull terrier named Jacko. He caught 100 rats in 5 minutes 28 seconds.



LETTING THE CAT OUT OF THE BAG

Such a long legacy in pest control must mean that your furry friends are good for combating rodents – or does it? It turns out that there is very little scientific evidence for the efficacy of cats or dogs when it comes to mouse hunting. That's one reason why official guidelines on rodent control almost never mention them.

Gregory Glass and colleagues from Johns Hopkins University studied the impact of cats on brown rats (*Rattus norvegicus*) in the city of Baltimore. They found that cats tended to catch juvenile rather than adult rats. This is a pity because adult rats are the ones breeding. In addition, cats had access to alternative food sources including other prey animals. Only a small proportion of their diet consisted of brown rats. Glass showed that rat numbers were not affected by the cats.

Other researchers have reached much the same conclusions. William Jackson similarly looked at Baltimore cats. He worked out that the cats scavenged two-thirds of their food from garbage or table scraps.



Cats are lazy and eating garbage takes less effort than catching rats and mice. Jackson estimated that the total rat population would increase by at most 20 percent were the cats not present.

A project evaluating cats in Berkshire, a rural area of England, had more promising results. Once rats had been exterminated from a building, cats were able to prevent fresh invasion and occupation by rodent forces. But cats by themselves couldn't clear an already entrenched army of rats. Farm cats also seem to want a daily ration of milk to keep them close to home and on the job.

FAT CATS AND SLY DOGS

Why don't cats make a greater impression on rodents? Before you drop Tigger at the local animal shelter, consider what he's up against. A female rat can produce her first litter of pups at two months of age and may continue giving birth to new litters about once a month thereafter. In theory, that means a single pair of rats could result in 15,000 offspring within one year. The house mouse can do much the same.

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Rats and mice are second only to humans as the most successful mammals on the planet. The brown rat has the same global distribution as humans. Many cities have as many rats as people – some have more – and rat numbers are increasing. Climate change suits rats: in mild regions, rats breed right throughout the year.

This is why cats have a hard time keeping up. People still continue to turn to cats and dogs when they need help with rodents. The Cats at Work program in Chicago is a good example. Run by an animal welfare society, Cats at Work involves placing homeless cats in neighborhoods with a rat problem. Residents and business owners alike praise the program for keeping their premises rat-free.



1. Feral cats in urban areas obtain most of their food from garbage.
2. Airedale terriers were originally bred to catch river rats in deep water.
3. Rats eat almost anything and this has helped their global spread.

Similar schemes have sprung up in other areas. They provide a chance at life for thousands of feral cats that do not have the temperament to become pets as they are unsociable and sometimes even aggressive. Often such cats are euthanised. With their new opportunities in pest control, there seem to be good reasons for them to be vaccinated and sterilised and to receive ongoing care from grateful humans.

But it's not all about cats: dogs are stepping up as well. In New York City a group of dog owners has been responding to calls about rogue rats for more than 25 years. They call themselves the Ryders Alley Trencher-fed Society or R.A.T.S. Members own terriers and dachshunds. By night these pets become the fearless protectors of anxious New Yorkers. The service is free to anyone who requests it. There are approximately 2 million rats in New York City, so the R.A.T.S. group has their work cut out for them.



1. Rats are highly intelligent and adaptable to both urban and rural environments.
2. Homeowners and farmers can enlist the help of barn owls in controlling rodents.

WINNING THE RAT RACE

If a cat or a dog isn't going to solve your rodent problems, what is? The answer seems to be: you need both! Themb'alilahwa Mahlaba and colleagues investigated the role of domestic predators in pest control around farms and villages in Swaziland. Black rats (*Rattus rattus*) are the dominant species in this region. Black rats originated in Southeast Asia and spread across the world alongside trading humans.

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Mahlaba compared settlements that had cats only, dogs only, dogs and cats, and neither dogs nor cats. The results showed that homesteads with both dogs and cats had significantly fewer rats and the rats were less active. Having only cats or only dogs did not seem to have the same effect. The combination of cats and dogs seems to scare the rodents off.

YOU NEED MORE THAN CATS AND DOGS TO GET RID OF RATS. HERE IS A FIVE-STEP PROGRAM TO FOLLOW:

1. DON'T FEED THE BEAST

Rats and mice thrive because they eat just about anything. Rodents tend to be nocturnal, so feed domestic animals or wild birds during the day and remove any uneaten food at night. The same applies to human food – don't leave anything on the kitchen counter after dark.

2. CLEAN UP YOUR ACT

Garbage equals gourmet for rodents. Use secure dustbins to prevent access and don't overfill these. Never put your rubbish bags out in the evening. Always be on the lookout for anything that could be a food source and secure it immediately.

3. BUILD WALLS, NOT BRIDGES

Don't let rodents into your home. Repair holes in walls and doors. Remember that drains and downpipes are public transport to rats. They will also climb up the cavity in walls to reach spaces in your roof. You have to be vigilant to identify and block all entry points. Remove anything outside the house that can provide shelter for rodents such as building rubble and garden refuse.

4. CREATE A COALITION

Cats and dogs are not your only allies when it comes to fighting rodents. Other predators can help too. Make it easy for owls in your area by putting up nesting boxes. A single barn owl will eat around 2,000 mice a year and a pair of owls raising chicks will catch far more than this.

5. GO TO WAR

Set traps: live and instant-kill traps are available. Both need to be checked daily and kept baited. A variety of rodenticides to poison rats and mice can also be used, but these will only be effective as part of a holistic program. If you decide to use poison bait, make sure that other animals cannot reach it. Follow the instructions on the label and be sure to retrieve dead rodents for safe disposal.



Most people love Mickey Mouse, but they don't want any rats in their kitchen. A need for rodent control led to the domestication of the cat and the development of specialised rat-hunting dog breeds. After more than 10,000 years, cats and dogs still willingly provide this service, in exchange for board and lodging.

But, you may protest, science has shown that the service is not all that good. Sure, but remember that it comes with unlimited love and a wet nose. How can you refuse? 