Humane destruction of rats and mice / by C.W. Hume.

Traps

In no circumstances should gin traps, which crush the limbs, be used. Their use will be illegal after 31st July, 1958. Traps of this kind belong to the dark ages and should have gone out with the rack and thumb screw.

Breakback traps with a platform trigger (such as the Nipper and Betta) kill painlessly in the majority of cases if properly set. Unfortunately, however, they are not infallible, and a certain percentage of victims are maimed by them. It is desirable to guide the animal so that it approaches a trap from in front; for instance, breakback traps may be set back-to-back in pairs, in tunnels. (A tunnel can be constructed by leaning a plank against a wall.) Such traps should be lightly set, so as to spring at the first touch, with the bait rather far back.

Cage traps such as the Kindheart, the Brailsford and the Wonder are humane if visited daily, but inhumane if the animals are left without water and food.

Varnish (rat-lime) traps are inhumane and inefficient and are used only by the incompetent. The rats die from exhaustion or suffocation and the varnish (which most rats are intelligent enough to avoid) soon loses its efficiency.

Mice

Poisoning is an unsatisfactory method of dealing with mice, which eat little and often and will not therefore readily take a lethal dose. They can be kept away by moistening frequented corners with Jeyes Fluid and by keeping a cat. They can be killed by treadle breakback traps lightly set; these should be shielded so that mice can only approach from the front, and considerable numbers should be set simultaneously. The bait should be placed carefully so as to ensure a kill. Food should be kept in tins. Holes should be blocked with putty mixed with mustard. Enclosed spaces occupied by mice can be cleared out by the use of carbon monoxide (*e.g.*, motor-car exhaust gas).

Rodent operatives

For both efficiency and humaneness it is desirable to employ official rodent operatives—under the Local Authority in the case of built-up areas, or the County Agricultural Committee in rural areas; or alternatively to employ commercial firms of good standing. Pressure should be brought to bear, however, upon these agencies to employ humane methods. But it is well to bear in mind that it is against the interests of an ordinary rat-catcher to exterminate the source of his livelihood.

Ultra-violet lamps

It has very recently been found that rats and mice will not enter a room which is being irradiated with ultra-violet from one of the lamps used for artificial sunburn. This is because (1) their eyes are sensitive to ultra-violet and (2) they cannot stand the ozone which is produced. (See the *Countryman*, Spring, 1958, page 75.)

Published by UFAW
(The Universities Federation for Animal Welfare),
7a Lamb's Conduit Passage, London, W.C.1.
1st March, 1958

Courier Co., Ltd., Tunbridge Wells.

HUMANE DESTRUCTION OF RATS AND MICE

By MAJOR C. W. HUME, M.C., B.Sc.

The importance of destroying rats and mice is well known and need not be emphasized here. Unfortunately, on the other hand, little attention is usually paid to the importance of using humane methods. Many who would be horrified by cruelty to domestic animals appear to be either cruel or callous in their attitude towards animal pests. The object of this leaflet is to give some hints for minimizing cruelty to such creatures.

Among uneducated people a callous attitude has been encouraged by referring to rats and mice as "enemies of mankind." The fact that we have to take repressive action against them engenders hatred and spite in the popular mind, and this is rationalized into the absurd belief that these creatures are intentionally hostile to our species. It is a matter of some urgency to eliminate this fallacy by improved education. When that is done rodents will be seen to be very lovable though harmful animals.

Further, a phobia against mice, and still more against rats, has been instilled into many people by neurotic parents during their childhood. Psychiatric treatment is indicated.

Rat-proofing

The most important action against rats consists in eliminating the breeding-places, preventing access to buildings, and keeping food and water out of reach of the animals.

Holes in walls and floors (*e.g.*, where pipes enter) should be repaired or blocked with cement, broken gratings should be covered with quarter-inch wire mesh, ricks, barns and fowl-houses should, when possible, be raised on rat-proof pillars or staddles. Hawsers connecting ships with shore should have rat-proof plates or cones.

Waste food, if not fed to pigs, should be incinerated, and rubbish-dumps should be run on the controlled-tipping system. Lumber heaps and other nesting sites should be tidied away.

Dripping taps should be rewashered. Food should be kept in tins or other ungnawable containers.

In rural districts, rats and some mice tend to migrate to the fields in the summer and return to buildings in the winter.

Fumigation

The most effective fumigant is Cymag, supplied by Plant Protection, Ltd., who provide full instructions for use. It is applicable in banks, hedgerows and any other places where rats live in holes; for instance, in refuse dumps when the soil and the rubble have become well compacted. As to its efficiency in hay ricks the evidence is not at present conclusive either way. Although out-of-doors it can safely be used by responsible persons who take

reasonable precautions, it is dangerous (and indeed illegal) if used indoors by untrained personnel, as it is highly poisonous to human beings. Its danger has, however, been exaggerated for controversial purposes, and out-of-doors in responsible hands it is neither more nor less dangerous than a loaded gun.

Carbon monoxide in motor-car exhaust gas is a safe and effective fumigant. The engine should be run on a rich mixture and the exhaust gases should be conveyed into the rat-holes by means of a hose pipe for 15 minutes or more. Carbon dioxide also may be used.

Fumigation with Cymag or carbon monoxide is humane, since partially gassed animals will make a complete recovery in a short time. *Sulphur fumigants, on the other hand, are to be condemned*; animals partially gassed with them die a lingering and painful death.

Cruel poisons

The usual method of destroying rats is by poison, and the majority of rat poisons are excessively inhumane. Red squill produces severe convulsions and takes a long time to kill (often four or six days in laboratory rats under low dosage), the animal exhibiting symptoms of consciousness when tested during this period. The American poison 1081 is probably no better. Supplies of red squill are of unreliable potency, and although the poison is non-toxic to poultry and cats it is toxic to pigs and dogs. Phosphorus baits produce painful and prolonged symptoms, and phosphorus is believed to have the further disadvantage of setting up prejudice against zinc phosphide. Barium carbonate takes a very long time to kill, is inefficient, and apparently causes extreme suffering.

The least inhumane poisons at present available appear to be warfarin and zinc phosphide.

Pending the development of a humane poison the following advice must be given: employ official rodent operatives and insist on their using zinc phosphide after adequate pre-baiting, or *preferably warfarin.*

Warfarin. This prevents the blood from coagulating, but symptoms do not appear until the poison has been taken for about five days. Massive hæmorrhages then occur, and in laboratory rats the amount of suffering endured does not seem to be at all substantial. In wild rats, however, which are more active, there is some reason to believe that hæmorrhages occur in the muscles and joints, so as to cause appreciable pain when the animal moves. Warfarin is easy to use, does not necessitate pre-baiting, and is extremely effective. It is the best poison at present available.

Zinc phosphide. A full meal of zinc-phosphide bait is followed by symptoms after an interval of 15 or 20 minutes, and death usually follows after an hour or two. A rat has been known to die in 20 minutes, while others have survived till next day. The animal is comparatively quiet except for a short period of convulsions just preceding death; whether it is still conscious at this time is not known.

Pre-baiting is of the utmost importance. It consists in putting down unpoisoned bait on at least two occasions (preferably on successive days, but failing that on alternate days) before similar baits embodying poison are laid. But this means animals are encouraged to take a full meal; efficiency is increased and the percentage which suffer prolonged symptoms from an underdose is reduced.

The bait should be finely granulated so that it cannot be carried away; the baits officially recommended are sugar meal (flour with 10 per cent by weight of castor sugar) and sausage rusk moistened with an equal weight of water. It is often desirable to use bait boxes which are specially constructed to ensure that the poisoned bait shall not be scattered where domestic animals can reach it.

Prejudice is the name technically given to the tendency of rodents to avoid any food which has caused them injury in the past. It is overcome by (1) systematic pre-baiting, (2) changing from pre-baits to poisoned baits simultaneously throughout the area of operations, and (3) changing the bait (*e.g.*, from sugar meal to sausage rusk) for a second campaign.

Warfarin is free from this disadvantage; it does not give rise to prejudice.

Viruses (which in fact are not viruses but bacterial infections) are produced by infecting large numbers of animals with a distressing disease in the factory. The so-called viruses sold in the shops claim to kill rats wholesale as a result of mutual infection, but actually this method is extremely inefficient, and even with such a virulent microbe as pasteurella 90 per cent of the contacts survived in one experimental infection. Moreover the viruses sold to the public are sometimes dead before sale. Those sold in this country are usually a variety of *Salmonella enteritidis*, and in certain foreign countries, though not hitherto in Britain, outbreaks of sickness among human beings and domestic animals have in some instances been traced to its use.

Direct attack

Rats can be bolted with an unmuzzled ferret and either caught by a good terrier or shot. A really good terrier will kill at least as humanely as any other agency.

Cats can be used for scaring rats away, but they are not humane as rat-catchers. In respect of efficiency there are large individual variations, and when cats are employed they should come of a good ratting strain. They should be well fed. It is an error to suppose that a half-starved cat makes an agile ratter.

The Rats Orders of 1941-1942 lay down that when a corn rick is being threshed it must be surrounded by a fence and the rats must be destroyed. This can be done with sticks and dogs, and, although it is an ugly proceeding while it lasts, it probably enables more rats to be killed with less actual suffering than most other methods. It is important that children should not be allowed to take part in or watch the proceedings; they are apt to be brutalized as a result of their immature mental reaction to a disagreeable though necessary operation.