

Rabbits: use of cage-trapping to prevent agricultural damage

Rabbits (*Oryctolagus cuniculus*) cause extensive economic losses to agricultural, horticultural and forestry interests. Landowners and occupiers therefore require cost-effective and humane means of controlling rabbit numbers. The use of cage traps, baited with carrot or other palatable material, is a humane and effective way of managing rabbits.



Cage-trapping can be particularly appropriate in the following situations:

- where access to burrows is difficult or impossible;
- on golf courses, amenity land and gardens;

Where pets or other wildlife may be at risk from other methods of rabbit control.

Where rabbit-proof fencing has been used to encircle an area, cage traps can be used to remove rabbits remaining within that area. Where fencing has been erected along the boundary between a field and infested harbourage, cage traps can also be used to catch individuals persistently going round the ends of the fence or underneath it.

In field trials, rabbit numbers were reduced by 70%, on average, and in most of the trials a reduction in numbers of about 90% was achieved. However, there were also occasions where very few rabbits were captured, although no reason for these few failures could be established. Cage-trapping is particularly effective where relatively few rabbits are causing damage to small areas of high value crops such as vegetables, soft fruit or hardy nursery stock. Costs of traps can often be recouped within one growing season. On large farms, where damage is more dispersed, cage-trapping can be less cost-effective but may still be appropriate. Costs can also be offset by the sale of rabbit carcasses; there is often a premium for unshot rabbit meat.

Cage traps should be inspected twice a day and should not, therefore, be used where such regular visits are not possible. Cage-trapping is likely to be less effective than fumigation, where extensive rabbit populations exist and burrows can be reached for

Cage-trap design

Rabbit cage traps are rectangular wire mesh structures, 68 x 25 x 23cm (27 x 10 x 9"), with a treadle arm activating a free-falling mesh door. Cage traps of the patented design (Patent No. 2193425B) can be purchased directly from the licensed manufacturer or from designated outlets.

Effectiveness and suitability

Cage traps baited with carrot can catch substantial numbers of rabbits in a wide range of situations. They may be used throughout the year when set in open, short vegetation where rabbits can be attracted to the bait but are especially effective for catching adult rabbits during winter. Control is exercised at the site of damage (in contrast to other management methods access to burrows is not necessary) and any non-target animals caught can be released unharmed.

gassing. Care must be taken in public areas because of disturbance by dogs or the public. Cage traps must not be used close to pens where young pheasants have recently been released, as they may injure themselves in the traps.

Number of traps

An indication of the size of the rabbit population can be obtained by counting rabbits at the site of damage, at night, using a spotlight. Where practicable, the number of traps used should be one third to one half of the number of animals counted. In smallholdings where only a few rabbits can cause considerable damage, a minimum of 5 traps should be used.

Placement and setting of traps

Cage traps should be placed within the area of rabbit damage (where fresh droppings, scrapes or damaged plants are seen) or between the damage and rabbit harbourage. For best results the procedure below should be followed:

- Place traps about 10 paces apart, *parallel* to the harbourage from which the rabbits are coming.
- Bed each trap, on a level spot where possible, by grinding it back and forth so that it will not rock when a rabbit enters. It may be necessary to pin traps to the ground. If the ground is sloping, put the door facing downhill. Do not cover the traps, but they can be painted green to make them less conspicuous.
- Before setting, test each trap to ensure that all moving parts move freely. Ensure that the treadle is clear of obstructions and moves easily, that the door falls freely to the floor of the cage and that the two forward-pointing locking pins prevent the door swinging beyond vertical.
- To set, hold the door fully open and, with the other hand, pass the treadle arm through the raised door and rest it on the marked wire on the top of the cage. The arm should not be pushed more than $\frac{1}{2}$ cm ($\frac{1}{5}$ ") over the marked wire.

- When set as above, the moving edge of the treadle should be about 1-2cm ($\frac{1}{2}$ ") above the floor of the cage; adjust the height of the treadle, if necessary, by bending or straightening the treadle arm.
- Test the sensitivity by pushing the treadle down. The mechanism should move easily and the door should swing quickly down to touch the floor.

Problems and solutions

The most common problem is the failure of the trap to operate despite removal of the bait beyond the treadle. This may be due to:

- the treadle arm being pushed more than $\frac{1}{2}$ cm ($\frac{1}{5}$ ") over the marked wire;
- there being too much friction between the treadle arm and the marked wire;
- the treadle being too close to the floor;
- the treadle not moving freely, or
- the treadle arm being frozen to the marked wire.

To cure the problems:

- adjust the overlap of the treadle arm to $\frac{1}{2}$ cm ($\frac{1}{5}$ ") or less;
- stick a piece of smooth tape round the marked wire;
- bend the treadle arm in a smooth curve to achieve the required clearance of the treadle;
- manipulate the treadle hinge to ensure easy movement;
- smear petroleum jelly (Vaseline) around the treadle arm and marked wire at the point of contact.

After transporting or storing traps, ensure that the trap front remains rectangular, that the door hinges move easily and that the door shuts correctly.

Baiting of traps

Carrots are the normal bait. In some areas where particularly attractive crops (e.g. strawberries or herbs)

are grown, other baits (such as apple or turnip) may be needed because carrot is insufficiently attractive.

It is important to have a standard bait pattern if you wish to detect bait-take by rabbits. Chop fresh carrot into about 10cm (4") lengths, and then cut these into quarters lengthways.

Bait *inside* each trap with 6 carrot pieces beyond the treadle, 2 just in front of the treadle and 2 just inside the entrance. Bait *outside* the trap with 5 carrot pieces; 2 just outside the entrance, and the remainder at one-pace intervals away from the trap, so that bait lines are parallel to the harbourage, ensuring that some are on or near any runway or pile of droppings.

Uneaten bait should be replaced when it begins to look unappetising: in Summer, probably every evening, but in Winter bait may be left for several days. Once consumption of bait by rabbits is evident, renew only bait inside the trap and at the entrance.

Inspection of traps

Traps should be inspected twice each day, early morning and late evening. The morning inspection is of primary importance given that rabbits are usually most active at night. Inspection requires being close enough to a trap to be certain whether any animal (even small non-target species) has been caught.

Some operators bait the traps and leave the door locked open (using a short twist of wire) for 2 - 3 days so that animals become accustomed to entering the traps. We found no evidence that this improved capture rate but it can be used to save inspection time in the first few days.

Rabbit removal and disposal

Rabbits may be removed from traps by:

- encouraging them into suitable hessian or linen bags placed securely over the trap entrance before lifting the door;
- holding the scruff of the neck, or
- by holding *both* hind legs.

The Universities Federation for Animal Welfare (UFAW) suggests the following method as a humane way of killing rabbits. Rabbits may be killed by a sharp blow to the back of the head using a heavy stick. This should always be backed up with a second blow and followed by exsanguination or asphyxiation to ensure the animal is dead. Cervical dislocation, which is another suggested method, is only recommended by UFAW for operators with the necessary skill, acquired from practising on rabbits which have been killed by another method.

Non-target species

Seventeen species other than rabbits were caught in our trials (mainly pheasants, hedgehogs, hares, partridges and blackbirds). A major advantage of cage-trapping is that non-target animals can be released unharmed. However, young pheasants may seriously injure themselves, so trapping close to pheasant release pens should be undertaken only before the birds are released or after they have dispersed.

Capture rate and success

Our results suggest that the rate of capture during the first few days of trapping can be used as a practical indicator of likely overall success. Where over half the number of rabbits initially counted are caught within 10 days, a very good level of control usually follows. Even if more rabbits have been caught than were counted, it is important to continue trapping as research shows rabbit counts do not represent the actual numbers present. For example, spotlight counts in winter on average represent only about 60% of the total number of rabbits present.

If less than a quarter of the rabbits counted are caught within the first 10 days, trapping is unlikely to be cost-effective and should either be reorganised or stopped. This decision should not be taken any earlier, since there are often very few captures in the first five days, even at sites where trapping is eventually very successful.

In practice, trapping for up to 30 days is the most common approach. In protecting very valuable crops, where only a few rabbits may be present and are difficult to count, trapping should continue until damage ceases and there are no more fresh signs of rabbits.

Once a period of trapping starts, it is better to continue, if possible but if it is necessary to stop (e.g. over a weekend), traps can be left on the site if the doors are locked open or the traps are turned upside down. Traps should always be stored upside down to prevent accidental capture and starvation of animals.

Humaneness of trapping

One of the advantages of live cage-trapping is that almost all rabbits are captured without injury, although it is not uncommon for a small amount of abrasion of nose fur to occur. In our trials, less than 4% of rabbits suffered injury and less than 1% of captured rabbits were found dead in traps (most of these were juveniles found with heads stuck between the door and the side of the trap). Cage-trapping, therefore, appears to compare very favourably with other methods such as killing traps and snares. Trials indicated that risk to non-target species was virtually confined to young pheasants.

Some captured rabbits may be taken by predators (e.g. foxes) which can gain access by pushing the

door inwards. Some early versions of cage traps were made with a second set of door locking prongs facing inwards to prevent a closed door being pushed in. However, excluded predators may attack rabbits through the mesh of the cage and cause serious injury and stress. In such circumstances, it is preferable to allow the predator access to kill the rabbit quickly. Therefore, if you have this version, the second set of prongs should be removed before use.

Further information

In England, further advice regarding rabbit damage and management, as well as problems caused by other mammals and birds can be obtained by contacting the Department for Environment, Food and Rural Affairs (Defra) Wildlife Management Team at:

Address	Wildlife Administration Unit Defra, Burghill Road Westbury-on-Trym Bristol, BS10 6NJ
Telephone	0845 601 4523 (local rate)
E-mail	enquiries.southwest@defra.gsi.gov.uk

A range of leaflets on wildlife topics is available online at: www.defra.gov.uk/wildlife-countryside/vertebrates

This leaflet was produced by the Central Science Laboratories (CSL).