



# CRRU Guidance

## Permanent Baiting

**APRIL 2016**

The Campaign for Responsible  
Rodenticide Use (CRRU) UK  
The CRRU UK Rodenticide  
Stewardship Regime

CRRU UK Chairman Dr Alan Buckle says,

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*“Permanent baiting with rodenticides has become a routine business practice for many professional pest controllers. But we think this practice is one of the main causes of wildlife contamination, because we know that wild small mammals, such as field mice and voles, enter bait stations to feed on bait. These are then taken by a wide range of predatory birds and mammals.*

*“There is a place for permanent baiting, particularly indoors, but only after all other alternatives have been considered. Those who adopt external permanent baiting must first examine the risks to non-targets and make a conscious decision that those risks are justified by a continuing threat to human or animal health and hygiene.*

*“CRRU advises that permanent baiting should no longer be applied as a routine practice in rodent pest management.”*

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### **What is ‘Permanent Baiting’?**

Permanent baiting means bait left out in protected, usually tamper-resistant, bait stations in places where there are no current signs of rodent infestation. It is better called ‘long-term baiting’ because rodenticide applications should never be ‘permanent’.

Rodenticide baits were not originally intended to be used in this way. They were intended to be put down in places where there are rodents and taken away after the infestation is cleared. Many conventional rodenticide baits, based on grains and pellets, cannot not be used in permanent baiting because of their rapid deterioration. But the introduction of bait formulations based on wax blocks permits baits to be put out for long periods, and remain in good condition, making them useful in permanent baiting.

The practice of permanent baiting has been very widely used both by professional pest control technicians and those who apply rodenticides on farms. Indeed, those who audit food storage and preparation premises and sales outlets for compliance with a range of retail quality certification programmes may mistakenly look upon a system of continuously-maintained bait stations, containing rodenticide, as a demonstration of compliance. The same may be done by those who audit farm premises for compliance with the standards of a range of Farm Assurance Schemes. However, these programmes of audit and accreditation no longer specify a requirement for permanent rodenticide baiting.

### **Why is Permanent Baiting done?**

It is widely thought that putting out bait where there is no current rodent infestation protects buildings, facilities and installations in case rodents appear. This fits into the scheme of rodent pest management conducted by many professional pest control contractors. In this scheme, technicians visit the facilities under contract at a frequency of between every four and eight weeks. Permanent baiting is thought to protect the facility between these visits.

Permanent baiting also performs a ‘monitoring’ function. When the bait stations are opened and checked, technicians can see whether there have been any rodent takes of bait and adopt appropriate measures to discover the cause of the infestation and treat it.

## Why is Permanent Baiting a problem?

It would not be a problem if only pest rodents went into bait stations and took bait but this is not the case. It is now increasingly recognised that wild small rodents, such as field mice and voles, also go into permanent bait stations and take bait. These animals are the prey base of a very wide variety of species of mammals and birds in the UK. This prey base is then exposed to rodenticides and this contamination is passed to our wildlife up the food chain.

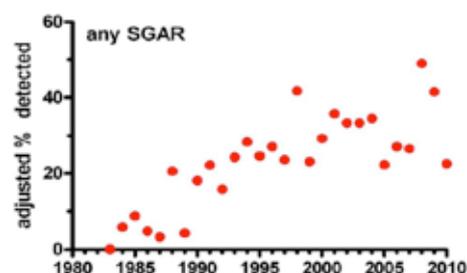
**Figure 1. The percentage of different prey species in the food of barn owls in the UK.**



*The figures are aggregate data from surveys conducted in the UK during the period 1974 to 1997 and are adjusted for mean prey weight. The contributions to the diet of owls of the rodent species that are the targets for anticoagulant treatments, Norway rats and house mice, are too small to register on the chart. This leads us to believe that the majority of rodenticide contamination of barn owls is caused by consumption of contaminated non-target small mammals. [Note: barn owl diets are very variable and the diets of individual owls may vary considerably from that shown in the figure.]*

It may be no coincidence that it was during the 1980s and 1990s, as the practice of permanent baiting became more common in the UK, that barn owls were becoming increasingly contaminated with rodenticides. There is no other convincing explanation for this fact because the amounts of rodenticides being used were not increasing at that time, nor were there significant differences in methods of chemical analysis that would have made rodenticide residues in barn owls easier to find.

**Figure 2. The percentage of barn owls that carry detectable residues of one or more of the five second-generation anticoagulants in use in the UK.**



*There appeared to be a consistent increase in the numbers of owls with residues in the period 1985 to 2000. Thereafter the data are highly variable and show no reliable trend. The values are adjusted to allow consistent reporting in spite of improvements in analytical techniques. Surveys of rodenticide use during the period 1985 to 2000, conducted by government scientists, showed no significant increases in the overall quantities of rodenticides applied in UK during that period. [The figure is reproduced here with the kind permission of the Centre for Ecology and Hydrology.]*

It is not just wild rodents that enter bait stations. Those that check them will sometimes see bird droppings in them because some birds overcome their reluctance to go into bait boxes, enter and take bait. This may partly explain why we find sparrowhawks and peregrines carrying residues of anticoagulants. These birds rarely take rodent prey and feed almost entirely on other birds taken in flight.

One of the main objectives of the UK Rodenticide Stewardship Regime is to reduce rodenticide residues in all UK wildlife. We believe that a reduction in the use of permanent baiting will significantly contribute towards achieving this objective.

## Is there a difference between Permanent Baiting indoors and outside?

Yes, there are several important differences. Most permanent indoor baiting is done for mice and uses specific tamper-resistant bait boxes. That prevents the entry into the boxes of many more non-targets than when rat bait boxes are used.

Non-target wildlife is, of course, to be found indoors much less frequently than it is around buildings and outdoors. Consequently, the risk of non-target wildlife contamination is considerably less when permanent baiting is conducted indoors. Therefore, the balance between the risks and benefits of indoor permanent baiting for the control of persistent house mouse infestations is weighed significantly towards the use of this technique because the risks to wildlife are consequently less.

## What are the alternatives to Permanent Baiting?

There is no direct replacement for permanent baiting. That is why the Health and Safety Executive (HSE), the UK Competent Authority for biocides including rodenticides, does not advocate a complete ban on this practice, therefore neither does CRRU UK. All alternatives are either less effective or more costly to implement, and sometimes both. But permanent baiting should not be a routine practice and, instead, it should be used only at sites where no practical alternatives are available and where a technician considers there is a direct and present risk to either public health or animal hygiene.

First and foremost, the objective must be to have facilities that are effectively proofed against rodent ingress. In that way, the presence of a small number of rodents externally will not present a risk of entry, contamination and potential transmission of disease. Frequent and thorough inspection of all internal areas of buildings will also offer fast identification of the presence of rodents in areas where they are not acceptable.

Permanent baiting is often used at sites where neighbouring facilities are beyond the control of the practising technician and there is an uncontrolled infestation that may give rise to immigration onto the protected site. All available means should be used to control such infestations. Technicians should offer to extend their control programme to neighbouring infested premises and businesses. They should maintain records if such offers are unreasonably refused. They should also consider notifying local authority agencies. These are empowered to require owners and occupiers to take appropriate action against rodent infestations on their property.

Unpoisoned 'placebo' or 'monitoring' baits are now widely available and the use of these products may play a useful role in indicating when and where rodents are active. They also provide the opportunity to determine which rodent species are present and to take the necessary actions. This might be the placement of rodenticides if the signs are of rats. House mice are only very rarely encountered outside buildings and, therefore, if signs of takes at placebo bait points are of mice, the chances are they are wild small rodents and not pest rodents.

Of course, if sites treated with placebo products are visited only very infrequently there is the potential for an infestation to build up before appropriate action can be taken. One possibility is the involvement of a designated member of site staff to check placebo bait points between the visits of the professional pest control technician. Placebo baits are not pesticides and no specific training is required for their use. However, those checking rodent bait boxes should wear appropriate personal protective clothing to prevent disease transmission and be able to identify rodent activity.

Some technicians use rodent traps set inside bait boxes to take rodents that enter them. Once again, this permits species identification before further action. It is important that trapping protocols are strictly followed in respect of the frequency of trap checks, so that animals taken but not cleanly killed can be humanely despatched.

Equipment for the remote sensing and recording of rodent activity is increasingly cheap and easy to use. Some of these technologies are capable of remote reporting to technicians. At some sites, it may be possible to use this technology to provide monitoring of rodent activity between the visits of the technician.

## When is Permanent Baiting acceptable and what should I do when I use it?

When all alternatives have been properly considered, and are not thought to provide comprehensive protection of human and animal health, it is permissible to apply a long-term baiting programme. The process of consideration of the alternatives, and reasons for the conclusion that they would be ineffective, should be documented and a record kept.

If permanent baiting is to be conducted outdoors, as with other external rodenticide applications, an environmental risk assessment should be undertaken. Guidance for this procedure is available from CRRU ([http://www.thinkwildlife.org/downloads\\_resources/](http://www.thinkwildlife.org/downloads_resources/)). The practice should only be carried out by a trained professional pest control technician or other competent person (see below).

Long-term baiting should only be conducted as a result of the potential infestation of a building. Sites that are permanently baited should be visited regularly. The frequency of inspection is a matter for the technician in charge of the application and will depend on the risks identified. It is not anticipated that sites with permanent bait points could be safely treated unless visited at least once every four weeks. More frequent visits would be required at sites where the risk of disturbance of bait points was considered to be high. When signs of pest rodents are discovered in permanent bait boxes it will be necessary to modify the rodent management programme to accommodate an ongoing infestation. This is likely to require more frequent site visits (<http://www.thinkwildlife.org/crru-code/>).

The areas to be baited should be as limited as possible. In particular it is likely that permanent bait points might reasonably be set out near to points of access to buildings that cannot always be kept secure from rodent ingress. Where possible, areas of rough grass, shrubs and overgrown hedgerows should not be baited, as these are favoured habitats for non-target small mammals.

If signs of takes by small mammals are found, usually clearly indicated by the size of droppings present in the bait stations, the poisoned bait should be removed. Poisoned bait should also be removed from permanent bait points when a series of records shows no takes of bait by rats. In such cases the reasons for conducting permanent rodenticide baiting should be reviewed. A sequence of four to six checks at monthly intervals without takes by pest rodents would typically suggest that the immediate threat of rodent ingress had not been realised and the rodenticide baits should be removed. Depending on circumstances, it may be that a shorter sequence of clear checks would justify removal of poisoned bait. Rather than removing baits and bait stations completely, the stations may be left in place either empty or with the provision of placebo bait.

## Who can carry out Permanent Baiting?

The labels of UK rodenticide products state who can carry out permanent baiting with this label phrase:

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*“Unless under the supervision of a pest control operator or other competent person, do not use anticoagulant rodenticides as permanent baits.”*

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The CRRU UK interpretation of this phrase is that anyone who is considered competent to purchase and apply professional rodenticides, under the conditions set out by the UK Rodenticide Stewardship Regime (<http://www.thinkwildlife.org/stewardship-regime/>), is able to employ permanent baiting. However, this should not be a routine practice and should be carried out only when there is a risk to human or animal health posed by rodent infestation that cannot be overcome by one of the alternative measures described in this document.

## Outline Protocol for Permanent Baiting

- Only trained pest control operators or other competent persons should carry out permanent baiting programmes.
- Permanent baiting should not be used as a routine practice.
- Permanent baiting should be considered if a building is under an ongoing threat of rodent infestation that might cause unacceptable risks to human and animal health.
- All other means of prevention of rodent infestation of vulnerable areas around the building should be considered before permanent baiting is undertaken.
- Reasons why alternatives are either impractical or unlikely to be effective should be documented.
- If the source of a risk of infestation is from neighbouring land or premises all methods should be explored to treat the risk at source.
- As with other rodenticide applications conducted outside, an environmental risk assessment should be conducted before external permanent baiting is implemented.
- The areas of the site that are permanently baited should be kept to a necessary minimum.
- Areas that provide obvious habitats for non-target small mammals, such as field mice and voles, should not be baited with rodenticides.
- Sites under a permanent baiting regime should be inspected regularly. The frequency of visits should be determined by the technician in charge but should not be less than every four weeks.
- Permanent bait points that only show signs of bait take by wild small mammals, such as field mice and voles, should either be removed or the bait in them replaced by placebo bait.
- Rodenticide should be removed from permanent bait points that show a series of consecutive no-takes by pest rodents. In such cases the justification for permanent baiting should be reviewed. The bait boxes may be left in place and placebo baits applied.

Background context available at [www.thinkwildlife.org](http://www.thinkwildlife.org).

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## CRRU Code is:

### 1. ALWAYS HAVE A PLANNED APPROACH

- Before treatment begins, a thorough survey of the infested site is an essential key to success when using any rodenticide.
- Environmental changes which could be made to reduce the attractiveness of the site to rodents should be noted for implementing after the treatment. Usually this will involve rodent proofing and removing rubbish and weeds that provide harbours and cover. However, the site should not be cleared before treatment since this will disturb the rodent population and make bait acceptance more difficult to achieve.
- Obvious food, such as spilled grain, should be removed as far as possible and any food sources covered.
- Rodenticide baits should only be used for as long as is necessary to achieve satisfactory control.
- In most cases, any anticoagulant bait should have achieved control within 35 days. Should activity continue beyond this time, the likely cause should be determined and documented. If bait continues to be consumed without effect, a more potent anticoagulant should be considered. If bait take is poor, relative to the apparent size of the infestation, consideration should be given to re-siting the bait points and possibly changing to another bait base, as well as making other environment changes.



### 2. ALWAYS RECORD QUANTITY OF BAIT USED AND WHERE IT IS PLACED

- A simple site plan or location list identifying areas of particular concern pertinent to the site should be drawn up and retained on file.
- A record of all bait points and the amount of bait laid should be maintained during the treatment. Activity should be noted at each bait point, including any missing or disturbed baits, as the treatment progresses.
- By carefully recording the sites of all bait points responsible users of rodenticides are able to return to these sites at the end of the treatment and remove uneaten bait so that it does not become available to wildlife.



### 3. ALWAYS USE ENOUGH BAITING POINTS

- Users should follow the label instructions regarding the size and frequency of bait points and the advice given regarding the frequency and number of visits to the site.
- By using enough bait points the rodent control treatment will be conducted most efficiently and in the shortest possible time. This will restrict the duration of exposure of non-target animals to a minimum.



### 4. ALWAYS COLLECT AND DISPOSE OF RODENT BODIES

- The bodies of dead rodents may carry residues of rodenticides and, if eaten by predators or scavengers, may be a source of wildlife exposure to rodenticides.
- It is essential to carry out regular searches for rodent bodies, both during and after the treatment period. Bodies may be found for several days after rats have eaten the bait and rats may die up to 100 metres or more away from the baited site.
- Any rodent bodies should be removed from the site and disposed of safely using the methods recommended on the label.



### 5. NEVER LEAVE BAIT EXPOSED TO NON-TARGET ANIMALS AND BIRDS

- Care should be taken to ensure that bait is sufficiently protected to avoid accidentally poisoning other mammals and birds. Natural materials should be used where possible.
- Bait stations should be appropriate to the prevailing circumstances. They should provide access to the bait by rodents, while reducing the risks of non-target access and interference by unauthorised persons. They should protect the bait from contamination by dust or rain. Their design, construction and placement should be such that interference is minimised.



### 6. NEVER FAIL TO INSPECT BAIT REGULARLY

- Where the risk assessment or treatment records show that multiple visits are required, then those should be made as frequently as is considered necessary. Daily inspection may be required in some circumstances.
- At each visit, baits should be replenished according to the product label and a thorough search made to ensure that bodies and any spilled bait are removed and disposed of safely. Records of such visits should be maintained.



### 7. NEVER LEAVE BAIT DOWN AT THE END OF THE TREATMENT

- Bait left out at the end of a treatment is a potential source of contamination of wildlife.
- On completion of the treatment, records should be updated to signify that the infestation is controlled and that, as far as reasonably practical, all steps have been taken to ensure that the site is now free of rodenticide bait.





Campaign for Responsible Rodenticide Use  
CRRU Stewardship

