



Department  
for Environment  
Food & Rural Affairs



Animal &  
Plant Health  
Agency



# Cage-trapping and marking of badgers (to enable vaccination) to prevent the spread of bovine TB

## Best practice guide

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## Contents

Cage-trapping and marking of badgers (to enable vaccination) to prevent the spread of bovine TB.....	1
Introduction.....	4
Legal protection for badgers.....	4
Legislation relating to vaccine use.....	4
The Veterinary Surgery (Vaccination of Badgers Against Tuberculosis) Order 2010 .....	5
The Veterinary Medicines Regulations 2013.....	5
Animal Welfare standards .....	5
Licensed persons and training.....	6
Bio-secure practices .....	6
The guide .....	8
Seasons .....	8
Equipment .....	8
Trap placement .....	10
Pre-baiting .....	11
Setting of traps .....	13
Stringing up .....	13
Checking traps .....	19
Preparing or reconstituting the vaccine .....	20
Vaccinating badgers.....	21
Record keeping .....	24
Non-target captures.....	25
Cleansing and disinfection of equipment.....	26
Other requirements.....	27
Pre-trapping check of sett activity.....	27
Health and safety.....	27
Reporting actions taken.....	28

Compliance monitoring .....	28
Appendix 1: Health and Welfare Assessment.....	29
Appendix 2: Vaccination Decision Tree .....	30
Appendix 3: VF3 Form .....	31

## Introduction

This guide has been produced to provide clear direction to those licensed to carry out cage-trapping and marking of badgers (*Meles meles*) to enable vaccination to prevent the spread of bovine Tuberculosis (bTB). It provides recommendations on best practice and highlights those areas of the technique that must be complied with, including the licence conditions.

This guide does not confer any authority to undertake the actions described or confer any right of entry upon land. These actions may only be undertaken where a specific licence under the Protection of Badgers Act 1992 authorising the taking of badgers has been issued and in accordance with a Wildlife and Countryside Act 1981 Licence. Those acting under licence must ensure that all conditions are complied with and must take all reasonable steps to ensure that the licensed operations are carried out safely and humanely.

## Legal protection for badgers

Badgers and their setts are protected under the Protection of Badgers Act 1992 (the '92 Act), which makes it an offence to kill or take a badger, except under licence. In addition, certain methods of killing or taking badgers, including the use of cage traps and artificial light, are prohibited under the Wildlife and Countryside Act 1981 (the '81 Act). It is also an offence under the '92 Act to 'mark' a badger, other than one which is lawfully in a person's possession and as authorised by a licence to do so.

Cage-trapping must be carried out in compliance with the conditions of Defra licence CL48. Marking a badger must be carried out in compliance with the conditions of Natural England licence CL49. A person guilty of an offence under the '92 Act or the '81 Act may be liable on summary conviction to imprisonment for a term not exceeding six months, or an unlimited fine, or both.

The '92 Act prohibits interference with a badger sett which includes damaging, destroying and obstructing access to a sett, or causing a dog to enter a sett and disturbing a badger when it is occupying a sett. A licence to take badgers to enable vaccination, unless otherwise specified in the licence, does not permit interference with a badger sett. The Act defines a badger sett as "any structure or place which displays signs indicating current use by a badger".

## Legislation relating to vaccine use

There are two primary pieces of veterinary legislation which relate directly to the act of vaccinating a badger. Persons vaccinating badgers need to be aware of these and comply with the requirements set out below.

## **The Veterinary Surgery (Vaccination of Badgers Against Tuberculosis) Order 2010**

Under the Veterinary Surgeons Act 1966, the practice of veterinary surgery by unqualified persons is restricted. Vaccinating badgers by injection constitutes an act of veterinary surgery. The Veterinary Surgery (Vaccination of Badgers Against Tuberculosis) Order 2010 is the exemption order which allows trained lay persons to vaccinate badgers. The person administering the vaccine must:

- be over 18 years old
- have successfully completed an approved course
- hold a valid Certificate of Competence in the vaccination of badgers by injection, granted by the approved course provider
- act under the direction of a veterinary surgeon

## **The Veterinary Medicines Regulations 2013**

These regulate veterinary medicines including BadgerBCG (the vaccine licensed for use in badgers). BadgerBCG is a Prescription Only Medicine (Veterinarian), known as a POM-V. This means:

- it must be prescribed by a veterinary surgeon
- it must be administered under the direction of a veterinary surgeon
- records must be kept of vaccine use; these must be durable, permanent and available for inspection
- any adverse reactions to the vaccine must be reported (this is known as 'pharmacovigilance')

## **Animal Welfare standards**

Live-capture cage-trapping is widely considered to be a humane method for capturing badgers to enable vaccination for preventing the spread of disease (bTB). To ensure that a high level of welfare is maintained during vaccination operations, those undertaking licensed actions must meet the required level of competence, follow this best practice guide, and strictly comply with animal welfare legislation and all licence conditions. In addition, only certified traps that conform to the standards set out under the Agreement on International Humane Trapping Standards (AIHTS), as implemented by the Humane Trapping Standards Regulations 2019 may be used. Vaccinators need to allow themselves sufficient time to vaccinate trapped badgers and allow the necessary welfare assessments prior to release.

Operators must never set more traps than they are able to examine during the time limits of a morning vaccination round.

## Licensed persons and training

A licence to take and mark badger for the purpose of preventing the spread of disease (bTB), permits those who have successfully registered to carry out the authorised actions in which they are suitably trained.

Persons setting traps to catch badgers are engaged in the actual process of taking badgers and must be covered by a '92 Act and a '81 Act licence (CL48). When registering for licence CL48 or CL49, consideration needs to be given to which person(s) will be carrying out each activity licensed (see Figure 1). Specific training is required before persons can apply to register for a licence to either: set cage traps, vaccinate and mark, or set cage traps, vaccinate and mark.

Activity	Authorised person (successfully completed relevant training course)	Veterinary surgeon
Pre-baiting	Licence not required	Licence not required
Digging-in traps	Licence not required	Licence not required
Setting traps to catch	Licence required	Licence required
Vaccinating	Licence required	Licence not required (when accompanied by an authorised person)
Fur-clipping / marking	Licence required	Licence not required (with approval from Natural England)
Release	Licence required	Licence required

**Table 1: Licensing requirements for badger vaccination and supporting activities in England.**

## Bio-secure practices

Mammals, including badgers, are potentially susceptible to coronaviruses and spread in animal populations can affect the health of these populations and may facilitate the establishment of animal reservoirs of SARS-CoV-2 (WHO, 2022), thus infection of wildlife from people (reverse zoonosis) should be avoided. To avoid transmitting COVID-19 to badgers all persons involved should implement measures that reduce the risk of transmission between people and between people and animals, using Personal Protective Equipment (PPE) COVID-secure practices that should be followed for activities listed in sections of the best practice table ('The guide') include:

- wear disposable gloves when in close proximity to badgers or handling any equipment or surfaces that badgers may come into contact with (for example, traps, wire, string, etc.)
- wear disposable gloves when handling bait (peanuts). Tip bait into containers to carry to field sites and use a tube, spade or scoop to place peanuts in traps/bait points
- keep the time you spend in close proximity to badgers to carry out vaccination procedures to a minimum
- when vaccinating badgers wear a FFP3 face mask, preferably without an air release valve and which has been face-fit tested
- do not blow on badgers in traps to encourage them to move
- disinfect any equipment that is handled (for example, wickets, scissors), and which badgers may come into contact with, between setts
- waste must be removed from field sites and discarded in appropriate waste bins/sacks

## The guide

	What you should do	Additional advice
<b>Seasons</b>	<p>Trapping of badgers to enable vaccination is only permitted in England between 1 May and 30 November inclusive. This is to reduce the risk of leaving dependant cubs underground to suffer starvation as a result of females being trapped and trapped badgers suffering exposure due to severe weather.</p> <p>Where an operator has reason to suspect that a trapped animal may be a lactating sow with dependent cubs, the animal must be released as soon as practicable.</p> <p>Trapping must cease at sites where it is not possible to mitigate against the risk that trapped badgers could suffer extreme exposure to inclement weather conditions – taking account of low temperature, heavy rain and wind-chill in combination or high temperature and direct sun in combination (see 3. Trap Placement for ways to mitigate against exposure to inclement weather).</p>	
<b>Equipment</b>	<p><b>Cage Traps</b></p> <p>Cage-traps should have dimensions of at least 1 metre long, not less than 35cm wide and 35cm high and should be constructed from (2 inch) square 8-gauge mesh or be of other suitable design approved by Natural England and agreed in writing under the provisions of the Licence.</p> <p>There must be no sharp edges or other damaged parts which have the potential to injure a trapped badger (or other animal).</p>	<p>Before deployment, each trap should be checked to ensure it is in good working condition; replace or repair any faulty or damaged parts as required (for example: trigger arm or trigger plate).</p> <p>Traps should also be ‘weathered’ to remove any scent that might deter badgers from entering them.</p> <p>Additional equipment:</p> <p>wire (minimum diameter 2mm plastic-coated garden wire) or cable-ties for fixing trap doors open</p>



	What you should do	Additional advice
	<p>Any trap used to restrain a badger must be certified as conforming to the standards as set out in the Agreement on International Humane Trapping Standards (AIHTS) and suitable for the humane live capture of this species.</p> <p>All traps must be labelled with a durable unique reference number (to enable recording of the trap location for each vaccinated badger).</p> <p>Triggering mechanism</p> <p>Cage-traps must either be triggered by means of a 'twine' or a 'wire &amp; twine' trip- line, which an animal either pushes against or pulls to reach bait at the back of the trap. This releases the trap door, which is then held in place by a brace mechanism or gravity, depending on design.</p> <p>2 or 3-ply untainted jute or hemp garden twine must be used as it breaks easily if a badger becomes entangled in it, thus minimising risk of injury.</p> <p>2mm diameter plastic-coated garden wire must be used as it is malleable therefore minimising the risk of injury to a badger if it becomes entangled. Polypropylene garden or baler twine, parachute cord, fishing line or electric fence wire must not be used.</p> <p>Flat natural stones (without sharp edges) must be used when adopting the 'Twine, Wire &amp; Stone' trigger mechanism. If local, natural stones are absent at a site, a suitable alternative can be an outdoor paving stone (of the same dimensions and weight). Alternatives must not be sharp edged, contain metal reinforcement, or be rough lumps of broken concrete or unknown construction waste.</p>	<p>spade for bedding in traps (see below)</p> <p>container for carrying peanuts</p> <p>stick for creating the 'twine triangle' trigger mechanism</p> <p>Flat natural stones which are large enough to cover the bait should be used during pre-baiting and trap setting, to prevent non-target species from depleting the bait. Stones that are too small, rounded or uneven shaped will not cover the bait adequately. Stones that are too light may be moved by non-target species leading to the bait being eaten before badgers emerge. This can negatively impact trapping success.</p> <p>Where non-target species are digging under stones and eating all of the bait, a suitable dish (for example, terracotta plant saucer or clay-pigeon target), can be used under the flat stone to prevent this occurring. Dishes should be large enough to hold 1-2 handfuls of peanuts but small enough to fit under the flat stone used to cover the bait.</p>

	What you should do	Additional advice
<b>Trap placement</b>	<p>Explicit permission from the relevant landowner to access land you want to place traps on must be obtained. Traps must not be positioned directly on spoil heaps or block access to, or be dug into, sett entrances or tunnels.</p> <p>Traps placed on a slope must be secured in position, fixed to wooden stakes, if necessary, to avoid them toppling over if a trapped animal were to move about.</p> <p>Traps must not be placed along fence lines where a lower strand of barbed wire could cause injury to a trapped badger if it reaches out through the mesh.</p> <p>The number of traps deployed should be recorded and their location marked on a map. The locations must be recorded clearly enough so that all the traps could be found by another person, should the original operator be unavailable.</p> <p>If remote trapping is being considered, for example, because of setts on neighbouring land where there is no permission, due regard must be given to the wishes of landowners/occupiers who do not want to allow badger vaccination.</p>	<p>Prior to digging in any traps, bait points can be used to introduce badgers to peanut bait in a vaccination area. Bait points indicate willingness of badgers to take bait, and shows current badger activity, aiding trap placement. A bait point is a hole filled with peanuts and then covered with compressed soil or flat stone to deter non-target species. Bait points should be located close to intended trapping locations (setts, runs or latrines) to get badgers used to visiting those locations and taking bait ahead of trap deployment. Once bait points are being hit regularly by badgers, traps can then be dug in at those locations. The level of current badger activity at each sett, i.e., distribution of active holes and runs, will give an indication of how many traps should be deployed at each sett.</p> <p>Traps should be 'bedded in' on the ground surface, to ensure that they are stable and securely positioned. This may require the creation of a level base using a spade. The floor of the trap should then be covered with soil, taking care not to interfere with the door mechanism.</p> <p>Traps should be positioned at or close to the active setts, ideally beside all active runs radiating from the sett.</p> <p>Remote trapping can also be effective near regularly used badger runs or latrines. Careful consideration should be given to the distance remote traps are placed from the main sett, particularly during the early part of the season (May – July) during which time young cubs may be caught. If young cubs are caught at a distance from their main sett, they may not be able to easily find their way back from point of release which could compromise their welfare.</p>

What you should do	Additional advice
	<p>Traps should be placed close to but not directly on field signs for example, runs, with the trap entrance facing (i.e. parallel to) the run.</p> <p>Traps should be positioned to take advantage of any natural cover available to give trapped animals shelter from the elements (including exposure to wind/rain/low temperature and over-heating from the sun) and to reduce the risk of third-party interference. Additional protection may be provided using natural materials available on site. Care must be taken to ensure that any materials used do not foul the trigger mechanism. Traps should also be sited away from other hazards, including areas at risk of flooding and those containing livestock.</p> <p>Consideration needs to be given to the ease with which a trapped badger can be vaccinated. Positioning of the trap should either allow the vaccinator adequate access to inject the badger safely and efficiently in situ or allow for the trap to be easily moved to a suitable location nearby.</p> <p>To minimise disturbance and the risk of badgers deserting the site, traps should be placed during the daytime, avoiding dusk and dawn when badgers may be active above ground. Additional traps can be deployed if required after the initial deployment.</p>
<b>Pre-baiting</b>	<p>After the bait points have been used regularly by badgers and traps dug in at those locations, pre-baiting of traps commences. Stop replenishing bait points located near the traps so that badgers are encouraged to search for peanuts in the traps.</p>

What you should do	Additional advice
	<p>Traps should be baited with animal grade peanuts for 7-10 days before they are set to catch, to encourage the badgers to enter the traps and maximise the number of captures.</p> <p>Peanuts can be placed in the trap using a spade or 40mm PVC pipe, or by gloved hand.</p> <p>On the first day of pre-baiting, place approximately 1-2 handfuls of peanuts just inside the entrance to the cage. Cover the pile of peanuts with a large flat natural stone (unless an alternative has to be used) to condition badgers to turn it (to access the peanuts) and also to prevent non-target species eating the bait. As badgers begin to move the stone to take the bait, the pile of peanuts (and stone) can be slowly moved backwards to the rear of the cage. By the end of the 7-10day pre-baiting period, approximately 1-2 handfuls of peanuts should be placed in a pile near the back of the cage and covered with the stone</p> <p>Peanuts should not be scattered widely in and around the trap because this may encourage badgers to dig under the trap from the outside or reach in through the mesh. It may also attract the attention of non-target species. On the first day of pre-baiting some peanuts may be thrown down and around the active holes to encourage badgers to look for the bait.</p> <p>Pre-baiting should be done as late as possible in the day, to minimise the opportunity for non-target species to take the bait.</p> <p>Cage trap doors should be securely tied open with wire (minimum diameter 2mm) during the pre-baiting period so</p>

What you should do		Additional advice
		<p>that badgers may freely enter but not be accidentally trapped.</p> <p>If, after a number of days, the bait remains untouched it may become mouldy and unpalatable. Remove any old bait and refresh with new peanuts. Other baits such as oats, maize, fruit or peanuts mixed with syrup may be tried. You should not use meat-based products.</p>
<b>Setting of traps</b>	<p>The number of traps set to catch at each sett or trapping location must be recorded in a notebook or digital equivalent (this may differ from the number of traps originally deployed).</p> <p>Normally traps should be set for two consecutive nights. If trapping is unsuccessful on either night, trapping can be extended.</p> <p>However, as soon as any marked animals are trapped, trapping must be discontinued.</p> <p>This is a welfare measure, to ensure that animals are not at risk of being trapped for more than 2 nights.</p>	<p>When adequate bait-take has been recorded, the traps should be set to catch. A final check that the traps are in good working order should be made to ensure they operate freely.</p> <p>Experience suggests that, following pre-baiting, most badgers will be caught on the first night of trapping. Setting traps to catch on the second night will allow for animals that were not trapped on the first night to be trapped. Catch returns decrease after two nights of trapping. It is not advisable to trap at the same sett for more than 4 consecutive nights as you risk disturbing resident badgers. This approach will also minimise the opportunity of capturing non-target species or them depleting the bait.</p> <p>Traps should not be set too late in the evening as badgers may be deterred from entering them and taking the bait.</p> <p>When 'stringing up', the trap door can be held open by inserting the trigger arm on the door into the trigger plate on top of the trap (see Plate 7).</p>
<b>Stringing up</b>		<p>Traps should be set to catch using one of the following methods:</p> <p>'Twine, Wire &amp; Stone Method'</p>

What you should do	Additional advice
	<p data-bbox="1350 220 2130 1066">This is the preferred method of ‘stringing up’ because it is species specific to badgers. Wrap a short length of wire (2mm diameter plastic-coated garden wire) around the large stone that is used to cover the peanuts during pre-baiting (Plate 1). Place a double handful of peanuts at the back of the cage (Plate 2). Place the stone on top of the peanuts (Plate 3). Extend the wire out through the mesh of the cage (parallel with the trap floor - Plate 4) and approximately half to three-quarters of the way up the rear of the trap. Create a loop at the top of the wire (Plate 5). Attach 2-3 ply twine to this and extend the twine up the rear of the trap and through the top mesh of the trap (at a 45° angle – Plate 6), then along to the top hole of the trigger plate where it is tied. Ensure that the trigger plate is positioned more or less vertically, at ~90° to the roof of the trap (see Plate 7). To allow for shrinkage in wet weather, and to allow for non-targets such as birds landing on it, the twine should not be set too taut. The end of the trigger arm is then placed in the lower hole in the trigger plate, such that it will be easily pulled free when the baiting stone is moved and the door will close. Always test the door-closing mechanism before setting.</p> <p data-bbox="1350 1134 1659 1166">‘Twine Triangle Method’</p> <p data-bbox="1350 1185 2130 1410">Instead of pulling the stone towards the front of the cage to uncover the bait, some badgers may flip it up on its end towards the rear of the cage. This will not activate the trigger mechanism. To counteract this requires the formation of a twine triangle trip-line inside the trap (approximately 6 squares from the rear of trap and 2</p>

What you should do		Additional advice
		squares from the floor) just in front of the stone/bait (see Plate 8). The end of the twine is then extended out through the top of the trap and along to the top hole of the trigger plate where it is tied as before. Always test the door-closing mechanism before setting. The trap should be baited as before. This can be used as a stand-alone method but where large non-targets such as pheasants and squirrels are present, these species are more likely to trip the trap before badgers do.

**Plate 1: 2mm plastic-coated wire attached to baiting stone.**





**Plate 2: Peanuts placed towards rear of cage (all traps shown below are of 2 x 2-inch mesh construction).**



**Plate 3: Wired baiting stone placed on top of peanuts at rear of cage.**





**Plate 4: Wire extended out through the mesh at the rear of the cage.**



**Plate 5: Wire extended half to three-quarters way up the back of the outside of the cage and tied in a loop.**



**Plate 6: Twine attached to the wire loop and threaded through top mesh of cage at 45 degree angle.**



**Plate 7: Twine tied to top hole on trigger plate and trigger rod inserted into the lower.**



Plate 8: Twine triangle formed in front of baiting stone.



	What you must do	Important advice
Checking traps	<p>Cage traps set to catch must be checked and badgers processed and released as soon as possible after first light and in any event no later than the times set out in the licence:</p> <ul style="list-style-type: none"><li>• May to August – up to 9.30am</li><li>• September – up to 10.30am</li><li>• October and November – up to 11.30am</li></ul> <p>Provision must be made for prompt veterinary attendance should a badger be trapped which is deemed to be in abnormal condition (see Appendix 1: Health and Welfare Assessment and Appendix 2: Vaccination Decision Tree).</p> <p>Trapping activity must be recorded using the approved digital reporting process or the VF3 - Trapping &amp; Welfare Form (Appendix 3), as stated in the licence conditions.</p>	<p>The traps that are most at risk of exposure to the elements, or to human/livestock interference should be checked first.</p> <p>It is strongly recommended that traps are checked by the person who set them, or by someone who observed the traps being set, unless in extreme circumstances where the person is unable to check the traps themselves.</p> <p>Following vaccination procedures and a fit for release assessment by the vaccinator or a vet, badgers are released at the point of capture. One exception to this is during the early part of the season (May – July) during which time young cubs may be caught. If young cubs are caught, they may not be able to easily navigate back to the sett which could compromise their welfare. Traps containing small cubs should be safely lifted and taken to the nearest active sett entrance for release.</p>

What you must do		Important advice
	After vaccination procedures are completed, the cage-trap doors must be closed / wired open to prevent the accidental capture of badgers or non-target species during the day.	
<b>Preparing or reconstituting the vaccine</b>	<p>The BadgerBCG vaccine is supplied in two parts which need to be combined (reconstituted) prior to administering. Vaccine reconstitution must be carried out on the morning of vaccination and <u>not</u> the night before. BadgerBCG must be used within 4 hours of reconstitution.</p> <p>Needles and empty vials/ampoules must be disposed of safely in cytotoxic sharps bins (purple lid).</p> <p>BadgerBCG is a live vaccine and must be stored at between 2-8°C prior to reconstitution. Cold storage instructions must be adhered to, and accurate temperature records maintained when storing the vaccine and diluent prior to vaccination.</p> <p>If the cold chain is broken i.e., there is a failure of the storage refrigerator (or portable refrigerator / vaccine carrier) during field operations to maintain recommended temperature range, this must be recorded on the temperature record chart and vaccine and diluent discarded. Records of discarded doses must be kept, including the reason for disposal.</p> <p>Vaccine and diluent must be stored in original packaging in order to protect from the light and must be used before the end of the expiry month displayed on the vials.</p>	<p>BadgerBCG is classified as a POM-V veterinary medicine and may only be supplied in accordance with a prescription from a veterinary surgeon.</p> <p>PPE (nitrile gloves) should be worn when reconstituting BadgerBCG in vials. You should never re-sheath a needle due to the risk of sharps injury.</p> <p>Reconstitution of vaccine should take place away from the traps to minimise unnecessary stress to the badgers.</p> <p>Reconstituting the vaccine involves adding the diluent to the vaccine and ensuring the 2 are properly mixed. The reconstituted vaccine should appear colourless with no particulate matter. Only the diluent provided with BadgerBCG should be used for reconstitution.</p> <p>If the vaccine is stored in a fridge close to the vaccination area, it may be possible to reconstitute the vaccine, travel to the site and vaccinate the badgers inside of the 4-hour window. To avoid wastage, the number of trapped unvaccinated badgers needs to be known. If not, it may be easier to use a portable vaccine fridge or vaccine carrier to store the vaccine when it is removed from storage, until it is ready to be reconstituted and used in the field.</p>



	What you must do	Important advice
<b>Vaccinating badgers</b>	<p>Prior to and post vaccination, the badger must be observed in the trap for signs of injury or distress. An objective welfare assessment of a badger carried out by a suitably trained person is an essential prerequisite for decision making in determining:</p> <ul style="list-style-type: none"> <li>• fitness for vaccination</li> <li>• fitness for release</li> <li>• criteria for consulting/ calling out a vet</li> </ul> <p>Thoroughly assess these five characteristics (see also Appendix 1: Health and Welfare Assessment):</p> <ol style="list-style-type: none"> <li>1) Demeanour (general behaviour)</li> <li>2) Respiration (breathing)</li> <li>3) Body condition (coat and muscle mass/weight)</li> <li>4) Injuries</li> <li>5) Movement</li> </ol> <p>The results of this assessment must be recorded for each trapped badger via the approved digital reporting process or VF3 form (Appendix 3) as stated in the licence conditions.</p> <p>Badgers that are observed as 'normal' or 'common departures from normal' can be vaccinated. A vet must be consulted prior to administering the vaccine if any abnormalities are observed.</p> <p>Once vaccinated, badgers must be marked by clipping an area of fur (about the size of a playing card approximately 60mm x 90mm) on the middle of the back below the shoulder blades with curved long-handled scissors to</p>	<p>When vaccinating badgers, PPE such as nitrile powder-free gloves, FFP3 face masks and safety glasses/face visor should be worn.</p> <p>When carrying out a welfare assessment of a badger in a trap (prior to vaccinating), approach the trap slowly and quietly to avoid unnecessary stress to the animal.</p> <p>If this is not the first morning of trapping at this location, or if other vaccination has been conducted nearby recently (for example, on neighbouring land), it is also important to check the badger is not already vaccinated. This will be indicated by a large fur clip and stock mark on the middle of the back of the animal.</p> <p>Administer the vaccine by injecting into the thigh muscle. Use an entry angle of 90° to ensure you avoid injecting the vaccine into subcutaneous fat.</p> <p>Badgers can be vaccinated without the need for actively restraining the animal. However, in some cases, badgers may be very active and require restraining using 'wickets'. Under no circumstances should covers or blankets be placed over cage traps in an attempt to calm animals.</p> <p>Release the badger by opening the trap door. Often the badger will quickly leave the trap, but in some cases they may not move immediately. In those cases, step back or orientate yourself (or a second person) at the back of the trap to encourage the badger to exit the trap.</p>

What you must do	Important advice
	<p>remove the outer dark guard hairs (see Plates 9 and 10). The clipped area must then be sprayed with a brightly coloured livestock marker (see Plate 11), being careful not to spray near the badger's eyes or face.</p> <p>Once the badger has been vaccinated and marked, take a step back and thoroughly observe the badger to check there has been no adverse reaction to the vaccine.</p> <p>If a badger displays any of the following signs a vet must be called:</p> <ul style="list-style-type: none"> <li>• collapse</li> <li>• convulsions</li> <li>• inability to move</li> <li>• immediate large swelling around neck/face</li> </ul> <p>Adverse reactions and suspected adverse reactions to the vaccine must be reported for pharmacovigilance purposes. If an animal has died following an adverse reaction or suspected adverse reaction, it may be necessary to submit the carcase for further investigation. Lay vaccinators should seek further advice from the Directing or Attending Vet regarding pharmacovigilance reporting and carcass submission.</p> <p>Reactions in humans following exposure to BadgerBCG (for example, through accidental self-injection via needle-stick injuries) must also be reported as part of routine pharmacovigilance.</p> <p>Where a trapped badger already possesses a fur clip and stock marker (indicating that it has been previously vaccinated), it must be released immediately by a</p>

	What you must do	Important advice
	<p>licensed person once a thorough welfare assessment by a suitably trained person has been conducted (which is recorded on the VF3 form) or approved digital equivalent as stated in the licence conditions. A vet must be consulted prior to release if any abnormalities are observed.</p>	

**Plate 9: Fur clipping using curved long-handled scissors to remove the outer dark guard hairs**



**Plate 10: Fur clip about the size of a playing card approximately 60mm x 90mm**



**Plate 11: Clipped area must be sprayed with brightly coloured stock marker**



	What you must do	Important advice
<b>Record keeping</b>	<p>Records of trapping and vaccinating badgers must be kept and submitted to the licence holder via the approved digital reporting process or the VF3 form (Appendix 3), as stated in the licence conditions This form must be completed for each trapping location (for example sett, or remote trap location), on each trapping morning.</p> <p>Other information must be recorded to ensure compliance with the current Veterinary Medicines Regulations and series of Veterinary Medicines Guidance (VMG) issued by The Veterinary Medicines Directorate when using any UK veterinary medicinal products.</p> <p>Vaccination activities that must be recorded are:</p> <ul style="list-style-type: none"><li>• BadgerBCG orders</li><li>• BadgerBCG tracking</li><li>• BadgerBCG disposal</li></ul>	



What you must do		Important advice
	<ul style="list-style-type: none"> <li>• Storage refrigerator temperature record</li> <li>• Portable refrigerator or vaccine carrier temperature record</li> <li>• Pharmacovigilance reporting (see above)</li> <li>• The VF10 form should be used to report any suspected adverse reactions to vaccination (see Appendix 2: Vaccination Decision Tree)</li> </ul>	
<b>Non-target captures</b>	<p>Any wild non-target animal captured should be released at the point of capture, unless it is a species that cannot legally be released (for example, certain listed and non-native species, such as the grey squirrel (see the <a href="#">Wildlife and Countryside Act 1981 schedule 9</a>), or humanely killed (unless it is of a species which it would be illegal to kill). Wild animals which are so seriously injured or in such a condition that it would be inhumane to release them must be humanely killed as soon as possible by a person who is suitably equipped and competent to do so or taken without undue delay for veterinary treatment.</p> <p>Any domesticated animals caught without signs of injury should be released at the point of capture, or returned to their owners, if applicable. Injured animals must be taken for veterinary treatment without undue delay and their owners notified if possible.</p> <p>Non-target animals that are killed must be disposed of appropriately.</p>	

	What you must do	Important advice
<b>Cleansing and disinfection of equipment</b>	<p>Arrive at a vaccination site in a clean vehicle. Vehicles must be disinfected prior to each movement of the vehicle onto the public highway and on arrival at a new vaccination site. If equipment is to be used on more than one site, equipment which might transfer disease, such as wickets, curved scissors, waterproofs or overalls and boots, must be cleaned of biological material (soil etc.) and then disinfected with an appropriate disinfectant<sup>1</sup> before moving to land under different ownership.</p> <p>Traps must be cleansed and disinfected before being moved to land under different ownership and special care should be given to those that have had badgers trapped in them. An <a href="#">approved disinfectant</a> must be used for the correct contact time. Alternatively, traps must be steam-cleaned using a hot pressure washer (temperature of 100°C). Other equipment that has been used at setts or that badgers may have come into contact with, such as spades or stones, must also be cleaned before being used at another vaccination site.</p> <p>Under no circumstances should traps be moved between land under different ownership without prior cleansing and disinfection.</p>	<p>Vehicles and footwear should be disinfected frequently, such as on returning to the vehicle after visiting setts in each vaccination site for deploying, pre-baiting and setting traps.</p> <p>Following disinfection, the traps should be rinsed with clean water to remove the smell of the disinfectant which might deter badgers from entering the traps.</p> <p>Before removing traps from a vaccination site first dislodge any soil, vegetation, or debris, potentially contaminated with badger faeces and urine, which is caught in the mesh of the cage. Do this where the trap is located, using a stick or long handled brush. If the trap is located on the edge of pasture, dislodge the debris where it cannot be accessed by cattle, but not off the vaccination site.</p>

## Other requirements

### Pre-trapping check of sett activity

Before any trapping is carried out, all known setts to be trapped should be visited and their level of activity recorded in a field notebook or approved digital equivalent. The first visit to a sett is primarily to:

- check the activity level at the sett, noting any changes since the last visit
- identify potential locations for traps,
- estimate the number of traps required.

Once all the active setts have been identified, traps can be deployed and pre-baiting can commence. The placing of small twigs or straw in sett entrances, in order to record animals passing in or out of the sett, can be a useful technique for monitoring sett activity. As long as the materials are lightly placed, and do not obstruct the access of badgers to or from the sett, this does not require a licence. In addition, in suitable conditions, a small amount of sand/soil placed on the ground at sett entrances can be used to detect paw prints, and again does not require a licence.

## Health and safety

An appropriate risk assessment should be conducted before any trapping is carried out and thorough controls put in place to ensure safety of the general public and of all involved in the operation.

PPE: Due to the potential risk of exposure to *M. bovis* (both directly from trapped badgers and indirectly from urine, faeces, soil as well as exposure to the vaccine) it is recommended that operators involved in trapping and vaccination wear suitable PPE such as nitrile powder-free gloves, a FFP3 facemask and safety glasses/face visor.

As BadgerBCG is a live vaccine, immunocompromised persons should not handle or administer the vaccine.

During all trapping and vaccination exercises, operators should wear waterproof boots and over trousers that can be easily disinfected. These should be kept clean at all times to ensure high standards of biosecurity.

Operators are advised to wear strong disposable gloves or to clean their hands thoroughly with anti-bacterial soap/gel regularly during each period of trap deployment/pre-baiting.

## Reporting actions taken

Certain information will be required in order to complete the licence return to Defra or Natural England. In addition, it is best practice to record on a daily basis what has been done, where, and by whom. Day-to-day details of vaccination operations should be recorded via the approved digital process or on the VF3 form, as stated in the licence conditions.

This information is likely to be sensitive, so care should be taken not to lose field notebooks or leave them unattended (for example, in unlocked vehicles). Loss must be reported to the licence holder as soon as possible.

[Watch a step-by-step video tutorial on how to complete the VF3 form.](#)

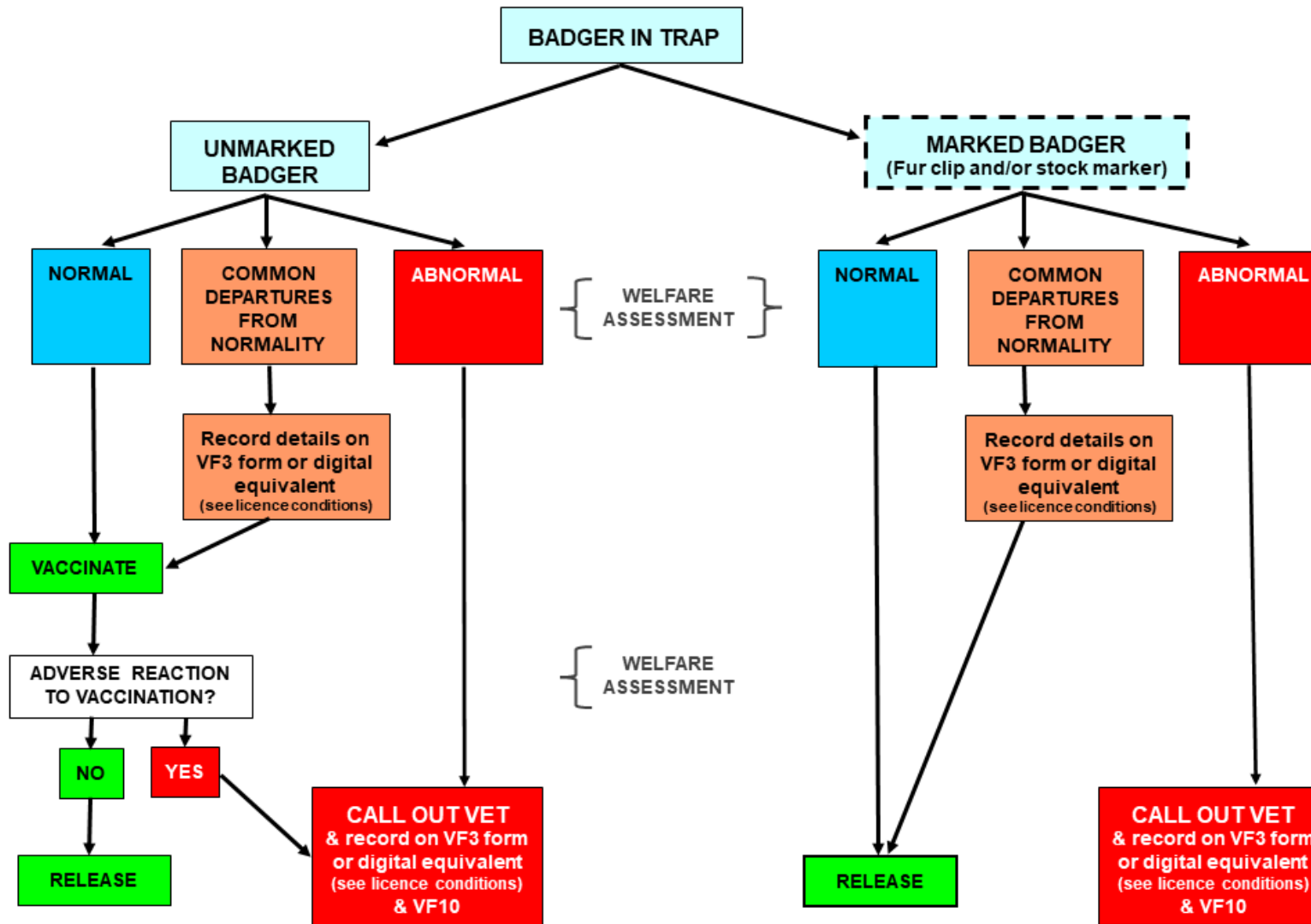
## Compliance monitoring

To assess compliance with licence conditions and this Best Practice guide, Defra have appointed Natural England to undertake monitoring visits of selected licensed individuals during vaccination operations. You must provide reasonable assistance to Defra and Natural England to enable them to monitor your actions taken under licence.

# Appendix 1: Health and Welfare Assessment

Parameter	Normal	Common departures from normality	Abnormal
<b>Demeanour</b>	<b>Highly variable</b> from 'very quiet but responsive' to 'scrabbling in cage or trap'	Individual variation can be high	<ul style="list-style-type: none"> <li><b>Very depressed &amp; unresponsive</b> to mild stimuli</li> </ul>
<b>Respiration</b>	<b>Highly variable.</b> Dependent on temperature/climatic conditions/transport/level of stimulation in the cage/trap  <b>Normal resting: 15-25 breaths per minute</b>	Expect respiratory rate to increase in hot temperatures and with stimulation such as cage/trap handling or disturbance	<ul style="list-style-type: none"> <li><b>Very low respiration rate/ no observable respiration.</b></li> <li><b>Panting</b> – open mouth breathing</li> <li><b>Laboured</b> movement of the chest wall during respiration</li> <li>Obvious <b>noise</b> on inspiration or expiration</li> <li><b>Discharge</b> from nose</li> </ul>
<b>Body condition</b>	<b>Coat</b> should be <b>clean, unmatted</b> and in good condition (Wet weather on trap night may cause coat to be matted with mud)	<ul style="list-style-type: none"> <li>Seasonal changes in body condition can be dramatic with maximum weight reached in autumn and minimum weight in late spring/early summer</li> </ul>	<ul style="list-style-type: none"> <li><b>Thin, dull, staring coat</b></li> <li><b>Prominence of spine, ribs.</b></li> <li><b>Excessive loss of hair</b></li> <li><b>Large swelling</b> around throat post vaccination</li> </ul>
<b>Injuries</b>	<b>None</b>	<ul style="list-style-type: none"> <li>Abrasions on top of forelimb or nose</li> <li>Ripped/shredded claws or cut pads</li> <li>Bite wounds over rump/around head, esp. in males. Can be extensive, often associated with hair loss</li> </ul>	<ul style="list-style-type: none"> <li><b>Fracture</b></li> <li><b>Open wounds (other than bite wounds)</b></li> <li><b>Excessive bleeding</b></li> <li><b>Limb fractures</b></li> <li><b>Broken Jaw</b></li> </ul>
<b>Movement</b>	<b>Using all four feet</b> when standing or turning in the cage/trap.  <b>Moving freely</b> and in a co-ordinated manner.		<ul style="list-style-type: none"> <li><b>Not able to stand or move easily</b></li> <li>Repeated lifting of limb(s)</li> <li><b>Inability to move</b> when stimulated</li> <li><b>Inco-ordination</b></li> </ul>

## Appendix 2: Vaccination Decision Tree



## Appendix 3: VF3 Form

Form number: VF3 version 3

Date issued: March 2018

### VACCINATION LICENCE RETURN FORM (VF3)

Return completed forms to Natural England, BM6283, London, WC1N 3XX.

Email: [bTBVaccination@naturalengland.org.uk](mailto:bTBVaccination@naturalengland.org.uk)

Tel: 0300 060 0550

Sheet ..... of .....

NATURAL  
ENGLAND

Lay Vaccinator(s).....

Certificate of Competence No(s).....

Organisation.....

Natural England Licence Number.....

<b>SITE DETAILS</b>			
Site name	<input type="text"/>	Sett / Remote Trapping	(circle)
Sheet No. & 10 figure grid ref.	<input type="text"/>	Date	<input type="text"/>
Arrival Time	<input type="text"/>	Departure Time	<input type="text"/>
<b>TRAPPING DETAILS</b>			
Number of Traps set	<input type="text"/>		
Number of previously vaccinated (stock marked) badgers caught	<input type="text"/>		
<b>VACCINATION DETAILS</b>			
BadgerBCG / InterVax BCG (circle)			
Vaccine Batch Number	<input type="text"/>	Diluent Batch Number	<input type="text"/>
Total Number of Badgers vaccinated:	Adults <input type="text"/>	Cubs <input type="text"/>	Age unknown <input type="text"/>
Trapping abandoned (tick if yes)	<input type="checkbox"/>	Reason: <input type="text"/>	

FOR APHA USE			
Data entered by	<input type="text"/>	Date	<input type="text"/>
Data checked by	<input type="text"/>	Date	<input type="text"/>

FOR NATURAL ENGLAND USE ONLY			
Date received	<input type="text"/>		
Data checked by	<input type="text"/>	Date	<input type="text"/>

Trap No.	Trap set by (print name)	Animal caught (Ad, C, U, N, TE, NT)	Demeanour			Respiration			Body Condition			Injuries			Movement			Vet called		Vaccinated		Badger vaccinated (if applicable) and released by (print name)
			N	CD	AB	N	CD	AB	N	CD	AB	N	CD	AB	N	CD	AB	Y	N	Y	N	

Comments (including injuries, vet attendance and outcomes, details of non-targets trapped):

**Key: Animal caught:** Ad = Adult; C = Cub; U = Unknown age; N = Non-target; TE = Tripped but empty; NT = Not tripped  
**Welfare Assessment:** N = Normal; CD = Common Departure From Normality; AB = Abnormal - a vet **MUST** be called out.