The legislation in place to protect badgers and their setts from persecution needs to be clearly understood to avoid well intentioned but illegal action. You could for example block up the place where badgers get into your garden, but if this prevented a badger from getting to or from its sett, it could be an offence. Generally there are several actions which could be considered.

# Physical barriers

It is possible to construct a fence that will deter badger entry. Badgers are strong and persistent animals that can easily break through or dig under a weak or poorly constructed fence. They can climb well, and will squeeze through quite small gaps. A strong wooden fence with heavy wire mesh attached and extended below ground, or a heavy wire mesh fence with the bottom extended below ground is recommended. Chicken wire is inadequate. The extension below ground will need to extend at least 600mm depending on the soil structure and have a horizontal return away from the garden of at least 300mm. The fence will need to be at least 1200mm high, and with wire mesh fencing an overhang of at least 300mm is recommended directed away from the garden.

An alternative barrier is a stone, brick or block wall with a suitable foundation dependant on soil structure. Such a wall should be at least 1200mm high with a smooth surface finish to deter climbing. Electric fencing, energised either by battery or transformed mains electric supply, can be an effective deterrent. It can also be installed either temporarily or permanently, and can be used to protect the whole or a specific part of a garden. Mains electric supply fencing can also be controlled with a time clock which will automatically switch the current on in the evening and off in the morning.

Permanent mains supply electric fencing using unobtrusive materials can provide a cost effective and lasting deterrent. Electric fencing needs to be firmly installed with at least two taut wires. These wires should be placed at heights of 75mm and 200mm above the ground. A third wire positioned at 300mm above the ground could also be installed. The wires should be adequately supported (minimum interval 3 metres), follow the ground contours and be well earthed. Vegetation should be kept cut back to avoid the wires shorting to earth during operation. There are important safety precautions which must be taken when using electric fencing. Please consult the manufacturer's instructions for further information on these. A leaflet produced by Natural England entitled "Badger problems: use of electric fencing to prevent agricultural damage" (TIN 027) includes guidance on safety. The leaflet is available from Natural England's Wildlife Administration Unit, telephone 0845 6014523. You can also download a copy from their website using the page:

www.naturalengland.org.uk/conservation/wildlife-management-licensing/leaflets.htm

## Chemical deterrents

There are currently no chemical deterrents that are specifically approved to deter badgers. Renardine is no longer approved and it is an offence to advertise, sell, store or use it. You can get advice on its disposal from your local Civic Amenity Site. There are products for the home garden market that do not carry any legal restrictions as to the animals against which they may be used. They carry general recommendations in the 'Directions for Use' such as 'effective against a wide range of animals and birds'. We do not know if they effectively deter badgers. You can search for them using their active ingredient, aluminium ammonium sulphate, on the Health and Safety Executive's pesticides website:

https://secure.pesticides.gov.uk/garden/prodsearch.asp

It is illegal to use chemicals like creosote, diesel oil, mothballs or bleach to deter badgers. These substances can be dangerous to children, domestic pets and other wild animals. There are claims that male human urine, human hair clippings and lion dung spread on the garden may act as a deterrent, but these methods are not recommended.

#### Ultrasonic devices

These devices emit a fixed or variable signal which is inaudible to humans. There are reports that some have proved effective as badger deterrents in certain circumstances, but currently we know of none which are specifically recommended for use with badgers. Should you wish to experiment with such a device then it is recommended that you discuss the application with the device manufacturer or stockist, paying particular attention to the effect it may have on domestic pets.

## Lawn damage

Badgers digging for insect larvae in lawns can cause significant damage. Some lawns are more likely to support a significant insect larvae burden than others, and this is often determined by the condition of the lawn. Lawns in good condition, particularly if they well drained and free of moss, are less likely to suffer. There are a number of actions which can be taken to reduce this type of problem.

# Improving lawn condition

Improved aeration and drainage of a lawn will reduce the insect larvae burden. Also the removal of moss and overhanging vegetation which both contribute to damp areas. Generally well drained and well aerated lawns are less attractive to insects as an egg laying site so that less larvae result. Mechanical aeration or spiking the lawn followed by the application of 'lawn sand' will improve aeration. In extreme cases drainage improvements may require the installation of drainage pipes. Moss can be removed by chemical treatment followed by thorough raking, or by firm raking by hand or mechanical rake. Regular mowing in season and periodic raking will reduce the likelihood of insect egg laying. Reducing the insect larvae burden will not only reduce the likelihood of damage by badgers, it will also mean less damage to your lawn by the insect larvae themselves, which often attack the grass root system.

## Chemical removal of insect larvae

The use of pesticides in Great Britain is governed by the Control of Pesticides Regulations 1986 (as amended). Under these regulations, all pesticides must be approved before they can be sold or used, and must be used in accordance with the terms of their approval. Many pesticides previously approved for use against insects in garden lawns are no longer available as safety concerns have led to their approval being removed. We are aware of just one pesticide that is currently approved for use by members of the public to remove insect larvae in lawns. There are however a number of alternatives to the use of pesticides.

## Biological control of insect larvae

Some garden centres and mail order garden catalogues supply biological control packs which contain a natural predator, parasite or fungus which will naturally remove harmful insect larvae. These controls include nematodes that can be useful in removing leatherjackets. These creatures are packed in powder form which when mixed with water can be applied as a seasonal drench to your lawn. This system of control is selective, harmless to other animals, and is totally natural.

# Organic removal of insect larvae

This is by far the cheapest method of reducing insect burden and is effective for small problem areas. It simply entails spraying the area with water, then covering it with black polythene sheets which are firmly held down and left overnight. The next morning many of the insect larvae will have migrated to the surface where they can be collected and disposed of.