



Kill or cure?

In an innovative project in deepest Gloucestershire, volunteers are training to vaccinate badgers against bovine tuberculosis. But will this trial work? And will a cull take place anyway? **JAMES FAIR** investigates.

Photos by **NEIL ALDRIDGE**

This badger is being released after being vaccinated against bovine tuberculosis. Unless it has already contracted the disease, it should be free of bTB for the rest of its life.

With the practised efficiency of someone who has done it countless times before, Fiona Rogers takes a syringe and presses the needle firmly into a tablet-shaped, 5cm-thick silicon pad. The texture of the pad replicates badger muscle, and is covered in soft, light-grey ‘fur’ to make it look and feel more realistic.

A veterinary adviser to the Food and Environment Research Agency (FERA), Rogers is teaching a group of seven people,

including the chairman of a badger group and two members of the National Farmers’ Union (NFU) policy team, how to vaccinate a badger. She depresses the plunger firmly but gently – there should be some resistance, but not too much, she says.

“It’s not exactly *Pulp Fiction*, then,” says one of the trainees to a ripple of laughter. Rogers smiles. “No, and it’s not *The Rock* either,” she responds. In other words, don’t go wielding the needle as if it’s a fencing sword – you are, after all, trying to do the animal some good.

It is one thing to plunge a needle into a cushion, however, and another to stick it in a dangerous animal that has been caged for up to six hours. But these trainees will do just that as part of a government programme to create a cohort of ‘lay vaccinators’ to inoculate badgers against bovine tuberculosis (bTB).

THE BAITING GAME

The Badger Vaccine Deployment Project (BVDP) was originally to be trialled in six bTB hotspots, but in 2010 this was reduced ▶

Fieldworkers wear protective masks and gloves to reduce the risk of catching any diseases, such as bTB, from badgers.



Vaccine – check; syringes – check; stylish, purple latex gloves – check.

An early start sees the sun creeping over the Cotswold escarpment, an area of beech woodlands and rough pastures where the trial is taking place.



When setting the trap, Jeff and Lucy make sure that the door swings freely and closes properly.



This badger is leaving the trap backwards – most of them come out headfirst.

to one location due to budget cuts. The survivor of that cull was here in South Gloucestershire – an area of mixed beef and dairy farming that ranges from intensively cultivated pastures to beech woods growing on the precipitous Cotswold escarpment. Prime badger habitat.

But before the trainees get anywhere near a needle they have to learn how to catch a badger. As the trial's manager Dr Iain Trewby says, this is the hardest bit. "It's all about field skills," he explains. "How to site a trap and maximise trapping efficiency."

That afternoon I'm taken out by two of the field team, Lucy Borde and Jeff (he declined to give his full name, for reasons that will become clear), to find out what this involves. The most obvious ploy is to set up a battery of traps by an active sett but, as the BVDP does not have access to all of the setts within its 91km² area, the operatives also have to place 'remote' traps on well-used badger

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runs. Think of it like locating speed cameras on the busiest A-roads.

Badgers leave several indicators of their presence: footprints; latrines or dung pits, where they deposit faeces to mark their territories; coarse hairs caught in barbed wire; and their runs, which vary from distinct tunnels through a hedgerow to less defined routes through vegetation.

Jeff points to a hole in a hedge that he says badgers use. "It's clearly the work of a short animal, not a deer," he explains. "Badgers scrape their bellies on the ground so the grass is worn away. And the hole is almost semi-circular – if it had been made by a fox, it would be much narrower." Jeff and Lucy bait and set the trap, and we move on – there are 21 more cages to prepare today.

The next morning we meet at 4am, and by 5:30am it is clearly going to be a glorious summer's day. The sky fades from a rich indigo

Peanuts work well as bait: they have a strong smell but don't attract many other species.



and, though the sun has yet to rise above the rolling hills, this resonantly English landscape is bathed in a warm glow. To conform with animal welfare regulations drawn up by the

Veterinary Laboratories Agency (VLA), Jeff and Lucy must check all 22 of the traps we set the previous day by 8am, and they go about their job with a brisk but unhurried calm.

Soon we reach a trap that contains a big male badger. He appears docile, but is not going to just sit there and allow his large rump to be prodded without protest. As Jeff approaches, he gives a few low, menacing growls and bares his teeth.

Lucy calls for the 'wicket' – a six-pronged

plastic gate used to immobilise the badger at one end of the cage. After a scuffle, he is cornered. Jeff sticks the needle into his plump behind then, to mark him as vaccinated, clips a patch of fur from his rump (which will take months to grow back) and sprays it with temporary red dye. At last Brock is free to go. The door swings open and he's off, with a speed I've never seen before in a badger.

It proves to be a busy morning, with 17 badgers trapped and vaccinated, of which at least six are cubs. This is especially significant: inoculate one of this year's models, and that's one badger that is unlikely to be responsible for spreading bTB to cattle.

CULL VS CURE

Beef and dairy cows are precious – every one lost is a waste. There is a dire need to find an effective method of reducing bTB in Britain's cattle, which currently costs the taxpayer £90 million a year (excluding research).

But badger vaccination is not the only option. In July, environment secretary Caroline Spelman said that she "was strongly minded" to permit farmers and landowners to shoot free-running badgers if their livestock is threatened by bTB. The earliest this can start is 2012, in two pilot areas – probably Devon and Gloucestershire – for the first year.

HOW TO TRAP A BADGER

To catch Brock you need keen eyes, handfuls of irresistible treats, a trapdoor cage and a licence from Natural England.



1

FIRST FIND YOUR BADGERS...

Look for the large exit holes of setts in banks or hillsides; 'litter' from inside may be piled up outside. Runs can be harder to spot: look for well-worn paths through hedges or vegetation.



2

GET THEM USED TO THE BAIT

Badgers need to learn that your bait indicates a regular source of food (peanuts smell strongly, so are ideal). Place it in a small pit and cover with a stone to deter mice and squirrels.



3

POSITION AND SET THE TRAP

Now introduce your cage, with the door wired open so that it can't fall. On the first night place the nuts at the entrance, on the second just inside, and so on – until the bait is right at the back.



4

NOW CATCH YOUR QUARRY

Bury the nuts at the back of the trap. Cover them with a stone, and run some thread from it to the trigger. As the badger roots for the nuts, it will move the stone and the cage door will fall shut.



Once the badger has been immobilised by the wicket, it can be vaccinated.



Red dye is sprayed on the badger's rump so that the fieldworkers know that it has been vaccinated.



Rigorous documenting of how many animals have been vaccinated is crucial so that the success of the trial can be evaluated.

After the badger is released, the cage door will be securely wired shut until the next trapping round. Jeff's face has been pixellated to hide his identity.



Boots, car wheels and mudguards are sprayed to minimise the risk of spreading infections.

OF COURSE, FARMERS MAY BE WARY OF AN ARMY OF 'BADGER-HUGGERS' TRAIPSING OVER THEIR LAND.

effective. Trapping badgers is a skilled business, he points out, and to catch enough of them to make a difference in a given area will require great effort. "This morning we caught just one badger at a sett where there is supposed to be a social group of eight or nine animals," he tells me. "That's not enough."

Figures released by Defra suggest an even more telling discrepancy: the cost of vaccination is £2,250 a year per km²; shooting, the culling method Spelman proposes, costs just £200.

But also attending the course is Simon Boulter, an ecological consultant and a trustee of the Badger Trust. Perhaps not surprisingly, he is much more optimistic about vaccination as a way

Trainees learn how to vaccinate on a silicon pad and fake fur.

forward and fizzes with ideas about how to make it work in practice.

"I see no reason why conservation groups such as the Badger Trust can't call on the services of their members in order to cut the cost to landowners," Boulter says. "We could mobilise thousands of volunteers to do the labour-intensive, pre-baiting work." Of course, he concedes, farmers may be wary of what they might see as an army of 'badger-huggers' traipsing over their land. "The NFU would need to help break down barriers," he says.

There may also be other attitude barriers to overcome. Some people oppose trapping wildlife for any purpose. Despite notices on the cages stating that no animals will be harmed, there is occasional interference. "A few people tamper with our traps or even steal them," Trewby says. This is why Jeff declines to give his surname or show his face: he doesn't want to be recognised by someone who has jumped to the wrong conclusions about his work.

DIFFICULT CHOICES

By the BVDP's own admission, an oral vaccine would be preferable to an injectable one; the former is being tested in a separate trial and, it's hoped, could be ready

expect to see a reduction in the incidence of TB in badgers." But he adds: "We do not know how long it will take for this to translate into a reduction in cattle herd breakdowns."

There may even be some 'unknown unknowns', but that hasn't stopped two conservation groups beginning their own badger vaccination trials this year: Gloucestershire Wildlife Trust (GWT) on sites in the Slad Valley and at Bourton-on-the-Water, and the National Trust on its Killerton Estate, in Devon. GWT chief executive Dr Gordon McGlone says that the trust wants to end the "polarised debate" surrounding bTB: "There is no one solution. Vaccination is not cheap, but bTB is an industrial disease and it won't be cheap to solve. We must use all of the techniques that we have at our disposal."

for use by 2015. By then, though, if farmers opt to cull, badger numbers in much of the South-West could have fallen by 70 per cent. So what factors, besides cost and effort, will influence the farmers' choice?

There are some 'known knowns': it has been demonstrated that the BCG vaccine *does* reduce levels of bTB in individual badgers. It's also known that last year 541 badgers were vaccinated in the BVDP trial area.

Then there are 'known unknowns'. Badgers already infected with bTB will not benefit from the vaccine, so the risk to cattle will only be reduced when these animals have died off and when disease-free animals have been vaccinated. Most badgers have a lifespan of three to five years, so Trewby says, "Five years seems like a sensible period over which to

FIND OUT MORE

- ▶ For further details of the badger vaccination programme and the cage-trapping and vaccination course, visit www.defra.gov.uk/fera/bvdp
- ▶ Read the NFU policies on bTB at www.nfuonline.com/Our-work/Bovine-TB/Bovine-TB

BADGERS AND bTB THE BACKGROUND



TB or not TB: that is the question.

WHY ARE BADGERS BEING VACCINATED AGAINST TB?

Badgers do carry bTB and transmit it to cattle, so by immunising them with the BCG – the same vaccine humans receive – it's hoped to reduce the level of the disease in the 'wildlife reservoir'.

CAN THIS WORK?

It can, but several questions remain to be answered, such as: can you catch enough badgers to make a difference? And is it really cost-effective?

IS THERE ANOTHER WAY?

The Government is also testing an oral vaccine, which would be much cheaper to deliver. But there are problems to overcome here, too. The earliest it will be available is 2015.

SO, IT'S BACK TO CULLING THEN?

The Government has said that it is "strongly minded" to allow culling, and two pilot trials are scheduled to start in 2012. On the evidence of the culling trial carried out between 1998 and 2006, Defra says that it should reduce bTB by 16 per cent over nine years. But that trial was based on the trapping and shooting of badgers, whereas it has now opted for the cheaper method of allowing landowners to shoot 'free-running' badgers.

DOES THAT MATTER?

It might do. It's already known that culling has the potential to increase levels of bTB, because infected badgers that are not killed disperse and spread the disease to outlying areas. Scientists say that shooting badgers, at night, is likely to exacerbate this so-called 'perturbation effect'.

ON THE PODCAST

Our environment editor James Fair gives his take on the latest developments in the badger debate in the new *BBC Wildlife* podcast. Download it now from our website: www.discoverwildlife.com/podcasts