Briefing

Bovine TB (bTB) and badgers

The Wildlife Trusts work closely with the farming community, as well as being significant farmers and landowners in our own right. We see and are very conscious of the immense hardship that bTB causes in the farming community and the pressing need to find the mechanisms to control the disease that are demonstrated to work.

However, culling badgers is not the answer. **There is a significant, and growing, body of scientific evidence to demonstrate that culling will not significantly reduce disease prevalence in cattle and could make the situation worse, due to the 'perturbation effect'**. The largest study of bTB in badgers ever undertaken (the Randomised Badger Culling Trial, or RBCT) concluded that '*badger culling can make no meaningful contribution to cattle TB control in Britain.'*

Culling is a central tenet to the Government's bTB eradication strategy yet the science does not substantiate this[i]. The original pilot culls in Gloucestershire and Somerset in 2013 failed to meet the target to remove at least 70% of the local badger populations within six weeks[ii]. Since then, the culls have been rolled out first to Dorset and then to seven new areas in 2015, bringing the total number of cull areas to ten. **Badger culling to-date at the licensed sites have produced no scientifically-sound measurable benefits**[iii]. This is in part due to the highly variable nature of badger social structures making it very difficult to say with confidence how many individuals were in an area to begin with[iv].

Several organisations, including The Wildlife Trusts, have run badger vaccination programmes involving more than 180 trained and certified lay vaccinators in England and Wales. **Our work on nature reserves and in partnership with farmers, vets and other landowners has demonstrated that vaccination is a practical and cost-effective option for reducing transmission of bTB between badgers and between badgers and cattle.**

However, to maximise the effectiveness of badger vaccination, it must be deployed on a larger scale – which will require Government leadership and industry support to develop and deliver a national badger vaccination strategy – in conjunction with measures to tackle the disease in cattle. Such measures have been shown to work.

The Wildlife Trusts continue to urge the Government to drop badger culling from its bTB strategy and prioritise a comprehensive package of vitally important, and demonstrably effective, cattle measures: better biosecurity, stricter movement controls, improved TB testing and development of a cattle vaccine; alongside a strategic programme of badger vaccination.

KEY FACTS

"The scientific case is as clear as it can be: this cull is not the answer to TB in cattle"
Lord Krebs, former Government adviser on bovine TB, October 2012

The pilot culls have **"not demonstrated that controlled shooting can be carried out effectively and humanely based on the criteria that were set for the pilots"**
President John Blackwell British Veterinary Association, 2015

Badgers do not transmit bTB directly to cows, it is through the environment - **"Just once in 65,000 observations did a badger get within 10 metres of a cow…they are thought to need to be within 1.5m of a cow to directly transmit TB."**
Dr Rosie Woodroffe, 2016

"An effective programme of badger vaccination in areas where badgers are the suspected source of TB in cattle would be expected to reduce transmission of the disease between the species"
EFRA Select Committee, June 2013

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Find out more about the badger cull on The Wildlife Trust's website here:
www.wildlifetrusts.org/badger-cull

Questions and answers

How could a cull make the bTB problem worse?

Badgers typically live in social groups of four to seven animals with defined territorial boundaries. Culling disrupts the organisation of these social groups, causing surviving badgers to range more widely than normal and increasing the risks of disease transmission. This is known as the 'perturbation effect'. The Independent Scientific Group on Cattle TB concluded in its final report (2007) that it was 'unable to conceive of a system of culling, other than the systematic elimination, or virtual elimination, of badgers over very extensive areas, that would avoid the serious adverse consequences of perturbation'.

Why are cattle measures important?

Any attempt to tackle bTB in badgers will have a limited impact on levels of bTB in cattle. The study by Donnelly & Nouvellet (2013) suggests that 5.7% (and a maximum of 25%) of new herd incidents are caused by *direct* contact with infected badgers. Although these initial infections are then amplified by cattle-to-cattle transmission, most of the disease is transmitted between cattle. It is therefore vital that the main focus of the Government's strategy to eradicate bTB be on cattle measures: ***better biosecurity*** to prevent disease transmission on-farm; ***stricter movement controls*** to minimise the risk of spreading disease when cattle are transported; ***improved bTB testing*** to increase detection of the disease and ensure that infected cattle do not go undetected; and ***development of a cattle vaccine*** and the necessary changes to EU regulation to permit its commercial deployment.

What are the potential benefits of badger vaccination?

A coordinated programme of badger vaccination could make a valuable contribution to the Government's bTB eradication strategy by reducing transmission of bTB between badgers and between badgers and cattle. In a clinical field study, vaccination of free-living badgers reduced the incidence of positive test results by 73.8%. Recently published research also found that, when more than a third of their social group had been vaccinated, the risk to unvaccinated cubs was reduced by 79%.

How are The Wildlife Trusts promoting badger vaccination?

Twelve Wildlife Trusts ran badger vaccination programmes on nature reserves and in the wider countryside, in partnership with farmers, vets and other landowners, in 2014. Three Wildlife Trusts have been involved in Defra's Badger Edge Vaccination Scheme (BEVS). However, all vaccination with the BCG vaccine had to be halted in 2016 due to a global shortage of the vaccine. We are working with Defra on a comprehensive new BEVS which will be underway in 2018.

Why should Defra produce a badger vaccination strategy?

Whilst The Wildlife Trusts have successfully deployed the badger BCG vaccine on a number of sites, we recognise the limited impact that our deployment of the vaccine will have on the wider bTB problem. If badger vaccination is to be successful, it needs to be deployed strategically in key areas in order to have the biggest possible impact on bTB. The Wildlife Trusts have conducted a short-term research project, funded by Defra, to assist with the development of a badger vaccination strategy for England.

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[i] Available here: www.gov.uk/government/publications/a-strategy-for-achieving-officially-bovine-tuberculosis-free-status-for-england

[ii] Independent Expert Panel (2014). Pilot badger culls in Somerset and Gloucestershire – Report by the Independent Expert Panel. www.gov.uk/government/publications/pilot-badger-culls-in-somersetand-gloucestershire-report-by-the-independent-expert-panel

[iii] Report of the incidence of bovine tuberculosis in cattle in 2014 - 2015 in the areas of Somerset and Gloucestershire exposed to two years of industry-led badger control. www.gov.uk/government/uploads/system/uploads/attachment_data/file/574290/tb-badger-control-second-year-analysis.pdf

[iv] Frantz et al. (2004) Estimating population size by genotyping remotely plucked hair: the Eurasian badger. *Journal of Applied Ecology*, **41**: 985–995 http://onlinelibrary.wiley.com/doi/10.1111/j.0021-8901.2004.00951.x/full

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