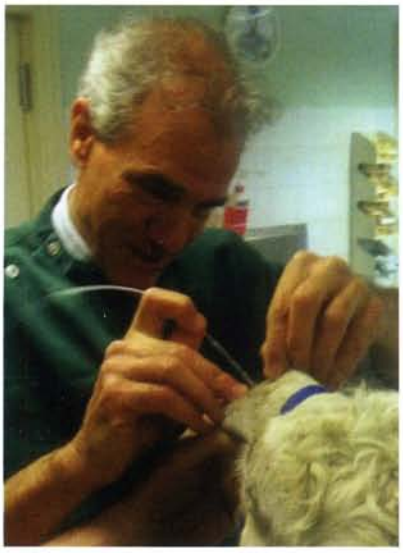

Badgers and TB – an update

R S Broadbent BVetMed MRCVS
Greenstede, Lansdowne, Bourton-on-the-Water, Cheltenham, Glos GL54 2AT UK

ABSTRACT: Following on from the article 'Badgers and TB – understanding the argument' in June 2013 (VNJ **28**: 187-189) this is an update on the progress, or lack thereof, in the fight against bovine tuberculosis.

R S Broadbent BVetMed MRCVS

Bob spent two years working with Dromedaries in North Yemen which inspired an interest in camelids. He returned to a mixed practice in the Cotswolds with a herd of 100 llamas to look after, which highlighted just how fragmented and patchy the information was about the species in the UK.

A founder member of the British Veterinary Camelid Society in 1991, Bob was president of this group of 200 vets for more than 10 years. An unfortunate combination of endemic TB in the South West combined with large numbers of a very susceptible species has further pushed his interests to include TB in llamas and alpacas.

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Public awareness has been focussed on the badger cull, its progress and the attempt by various groups to stop it going ahead, but the discussion about the general problem has continued behind the scenes. The two sides are still strongly polarised, witness these recent quotes from two eminent scientists!

The 'Anti' Lobby

In the *Veterinary Times* of August 2013, 'Twink' Allen asked: "Why is it we seem so hesitant to tell the public what a thoroughly nasty Mrs Tiggy-Winkle, Larry the Lamb and Chirpy Chick eating overpopulous, TB-ridden, silently suffering underground, verminous fellow Mr Brock really is?

"Until 'Middle England' comes to realise these truths, the Badger Trust and its witless followers will continue to prevent this timorous vacillating Government from undertaking the general and countrywide cull of badgers that is so desperately needed to rid us of TB."[1]

The 'Pro' Lobby

In their report 'Why the cull will fail', Team Badger quoted the Krebs report: "The scientific case is as clear as it can be; this cull is not the answer to TB in cattle. I have not found any scientists who are experts in population biology or the distribution of infectious disease in wildlife who think that culling is a good idea.

"People seem to have cherry picked certain results to try to get the argument they want … furthermore, all the evidence shows that culling badgers increases the proportion of badgers that have TB. Culling badgers as planned is very unlikely to contribute to TB eradication."[2]

Role of Defra

In addition to the discussion about what to do, the 'who' and 'how' is also under discussion. In July of this year, the Animal Health Veterinary Laboratories Agency (AHVLA) announced that it would be introducing a process of 'competitive tendering' to procure the services of vets to carry out TB testing in cattle herds – a job which historically has been carried out by local practitioners or Department for Environment, Food and Rural Affairs (Defra) vets.

Defra has protested for some years that this change is necessary to improve the delivery of the service and to comply with EU working rules. The cynical large majority of large animal vets in the UK believe that it is a decision driven purely by the need to work with a smaller budget, and that the successful bidders will effectively be the cheapest option available.

The AHVLA has said that the changes in the system will be 'really fundamental', but there is little doubt that they will produce a huge reduction in farm animal veterinary practice numbers and in the relationship between practitioners and the State – not, I believe, for the better.

Defra had 30 per cent budget cuts imposed in 2010, and has now been advised that it needs to show further savings of £37m by 2015. Its ability to continue functioning and funding disease control is limited to say the least. It might find that honesty would engender more sympathy and support rather than hiding behind EU legislation and claims of cost sharing.

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Fact versus myth

'Team Badger' published a 'Myth Busters' document on 5 June claiming to refute many of the accepted connections between badgers and TB. They highlight the document published by Smith et al (2012) as one showing that there is very little difference between the results of badger culling and badger vaccination on TB in cattle.[3]

However, the research summary clearly states that the badger is partly responsible for the maintenance and spread of TB in cattle … and against a background of existing control measures, where 144 herd incidents were expected in 10 years, limited badger culling prevented 26 whilst badger vaccination prevented 16. Culling plus ring vaccination prevented 40.

Current progress of the disease

According to Defra figures published in October 2013, the provisional incidence rate for cases of TB in cattle for the period, January to July 2013 was 4.2 per cent compared to 4.4 per cent in the same period in 2012; but the figures for 2013 may be revised upwards when further test results for the period are known.

The number of new herd incidents during the period January to July 2013 was 2,873 compared to 3,039 for January to July 2012, resulting in 19,988 cattle being slaughtered in the first six months of 2013 compared to 21,581 the previous year.

The number of tests on officially TB-free herds was 42,945 during January to July 2013, compared to 45,545 during January to July 2012. Hence, despite the renewed recent efforts, the disease seems to be only on a plateau rather than a decline and is still costing 30,000 cattle their lives and the taxpayer £100m each year.

The cull

A recent BVA policy statement recognised that targeted and managed badger culling is necessary in areas where badgers are regarded as significant contributors to the persistent problem of bovine TB.[4]

When the initial badger 2013 pilot cull trials finished in Somerset and Gloucestershire, Defra released figures indicating that 850 badgers were killed in Somerset (35% of the initial target), and 708 in Gloucestershire (just 20% of the population in the cull area). It therefore extended the Somerset cull for three weeks, allowing a further 165 to 282 badgers to be culled – and as I write, was considering an application to extend the Gloucestershire cull.

Owen Paterson (Secretary of State at Defra) announced in a ministerial statement on 9 October that 'current indications suggest that the pilot has been safe, humane and effective in delivering a reduction in the badger population of just under 60 per cent. One can only be pleased that he is not working in the Treasury!

A failure to kill 60-70 per cent of the population is accepted as a failure to impact on the long-term health of the occupiers of the sett, thus rendering futile the death of those badgers which have been shot.

The discrepancy in the figures has been explained by an apparent change in the estimated badger population in the pilot cull areas – down from 2,400 in September 2012 in Somerset to 1,450 in August 2013; and from 3,400 to 2,350 in Gloucestershire. Both pilot culls were postponed in 2012 after surveys suggested that badger populations in the areas were significantly higher than the original estimates.

This inability to accurately describe a wildlife population is just one of the reasons why cull protesters and farmers alike have little faith in the current cull process. Effectively, cull protesters would like to see the cull stopped completely, and farmers would like to have a total cull of infected setts using a method such as gassing and allowing large areas to be targeted to prevent perturbation.

Cull protesters say that any killing of this wildlife population is needless and unjustified; farmers argue that wiping out infected populations is the most humane way of dealing with them rather than leaving them to a slow death by starvation, and that repopulation does occur afterwards as it did after the Thornbury trials of the 1980s.

Both sides agree that shooting large numbers of badgers humanely with only 'clear shots to the heart and lung of standing badgers and no head, neck or running shots' as required by (Defra) guidelines was always going to be difficult or impossible, and it would be unlikely that the required target numbers would be reached.

Shooting 100 badgers a night for six weeks – whilst avoiding shooting other farmers, cullers and protesters – was always likely to be impossible, even ignoring the fact that the badger is a reasonably intelligent, if complacent, animal, who will almost certainly become more wary and secretive and avoid the haunts from which one or more of its number have failed to return. Early reports labelled the pilot culls as a shambles.

A Somerset charity has released photographs and X-rays of a badger killed by a single high velocity bullet which they claim died some time after being shot during the cull, and which Defra refutes was shot as part of the cull **(Figures 1, 2 & 3)**.

Post mortems on shot badgers to prove humane killing are almost pointless as, by definition, the sample is skewed. Wounded badgers are unlikely to turn up at the local veterinary practice asking for help and inclusion in the survey!

The future

Cattle TB testing

If left unchecked, bovine TB is predicted to cost the taxpayer £1 billion over the next decade. The Government's thrust is towards a risk-based strategy on all fronts, splitting the country up into low (North East) and High (South West, West Midlands and Sussex) risk areas with an 'edge area' separating them.

The options put forward are said by Defra "most likely" to achieve OFT status (Officially Free of TB) over time, whilst maintaining a viable livestock industry. Dutch action has already halted the export of calves to Holland. UK farmers are unimpressed by the Defra proposals and simply view the changes as likely to be no more effective, whilst blaming farmers for the deterioration and asking them to foot more of the bill in future years.

Badger vaccination

The Welsh Assembly is currently inviting applications for a Badger Vaccination Grant for privately delivered projects in Wales up to 2019. The well-publicised cost of badger vaccination is around £600/animal, played up by the pro cull community and down by the Badger Trust.

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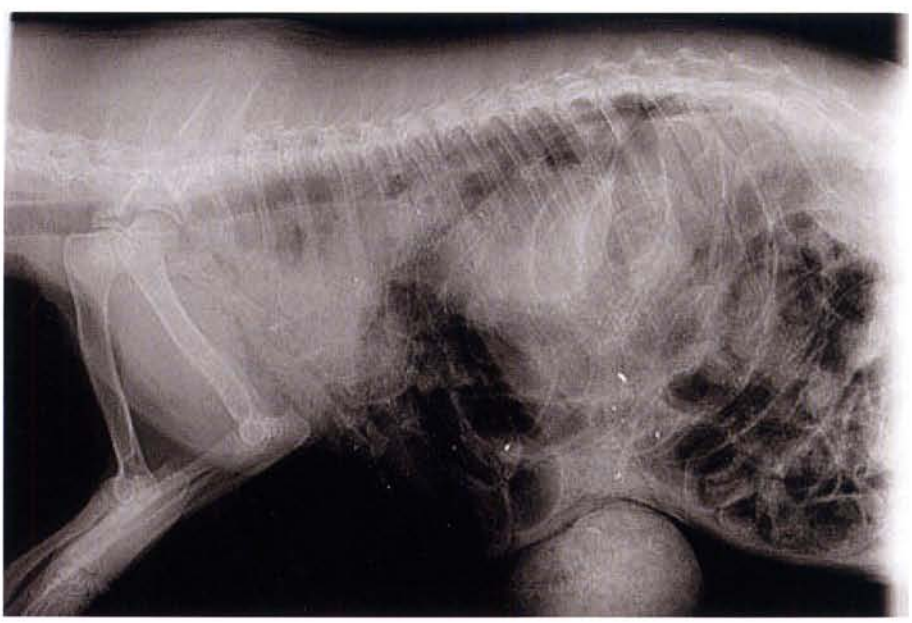
Figures 1, 2 & 3. There is much controversy over welfare aspects of culling badgers by shooting



The delivery of vaccine to enough animals within a sett is not without its problems, although it does not seem to be too stressful with the same animals returning to the traps for the bait!

Cattle vaccination

Defra has developed a BCG cattle vaccine against bTB and an accompanying DIVA (Differentiation of Infected from Vaccinated Badgers) test and is currently looking for a 'delivery partner' to help run the initial trials expected to start in 2014 and run for two to five years.

We can see from this time-scale that we are still some way from having a TB vaccine in the surgery dispensary fridge. Government estimates are 10 years, assuming that the EU will change the law to allow the trade of live cattle, meat and milk from BCG vaccinated animals.

Badger culling

Badger culling is likely to remain controversial; with people exercising their legal rights to peacefully protest whilst their actions are being brought into disrepute by extreme activists harassing, threatening and intimidating others carrying out legal culls.

If a cull is to take place, it must be carried out in the most effective way even at the cost of some welfare – a difficult compromise to arrive at as a healthcare professional. We need to remember that few badgers will experience a humane death in the wild unless as the result of an RTA. Most suffer a violent traumatic death by predation, or a miserable lingering one through starvation and/or disease.

A less-than-perfect death by gassing is probably better – and certainly no worse than what ultimately awaits them – but would require a change in the Badger Protection Act 1992.

Another famous quote from some years ago is that 'had the wildlife vector of bTB proved to have been the rat, we would not be having this discussion today because the disease would have been eradicated many years ago'. We would happily have agreed to rat poisoning despite the undoubted inhumane end that warfarin often entails.

Conclusion

Government commitment to the eradication of this disease is vital. Fortunately, the EU is firmly behind an

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eradication programme. If that were not the case, then probably neither this nor any other UK political party would find the will or the funds to carry it through.

The complete eradication of TB from British cattle will probably only be achieved by a combined use of:

- continued total whole herd testing of cattle at annual intervals over as much of the country as we can afford
- continued use of pre-movement testing and restrictions of movement of infected or contiguous herds combined with compulsory biosecurity measures, including the exclusion of vectors
- rigorous post mortem inspections of carcases and the follow up of source herds with detailed investigation as to how the infected cattle have remained undetected to slaughter
- the improved testing regimens (skin and blood tests) that are available made mandatory to all infected herds, not just those experiencing difficulties in clearing up infections
- the identification by faecal examination of infected badger populations in contact with infected cattle and the culling of those entire setts and others within a wide defined radius in line with historical successful cull strategies. A PCR is currently being developed for *M. bovis* which will be much cheaper than the culture. As *M. bovis* is excreted from the kidneys it can be found in the urine as well as faeces and it would be possible, using either diagnostic tool, to identify setts containing infected badgers.
- the ring vaccination of badger populations around the cull areas.

The final comment is the same as in the previous article, that much as we disagree on the route, we all want to end up in the same place. Healthy cattle and healthy badgers!

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NEWS REVIEW by Jean Turner

New dermatology e-newsletter focuses on fleas

Elanco Companion Animal Health has launched the second issue of its dermatology e-newsletter 'Under the Skin', which focuses on fleas and the problem of flea infestations.

The e-newsletter will refresh the knowledge of veterinary professionals by reviewing the life cycle of a flea and looking at a recent and highly readable overview of fleas and their role as parasite and vector.

Dr Peri Lau-Gillard, European Specialist in Veterinary Dermatology, will once again be guest editor and other interesting topics covered include: 'seasonal treatment or year round prevention'; 'treatment failure – what to consider when the fleas are still alive'; 'tips and tricks – flea combing and faecal examination for fleas'; and information on spinosad, the active ingredient in Comfortis.

There is also the opportunity to watch the recent 'real world flea control' webinar presented by flea expert, Dr Mike Dryden, together with a film demonstrating the effect of treatment on adult fleas.

To register to receive the e-newsletter, visit www.thewebinarvet.com/elanco; or for further information, contact your local Elanco key account manager or phone 01256 353131.

Rabies confirmed in Netherlands

A report that rabies has been confirmed in the Netherlands in two puppies from Bulgaria is deeply worrying and far too close for comfort.

It must be considered as a wake-up call to the UK authorities to ensure that enforcement of pet movements into the UK remains a priority.

Concerns have been raised with the Government that the changes in legislation last year had significant unintended consequences in boosting the number of puppies and kittens coming to the UK for sale.

The news from the Netherlands should also be a serious wake-up call to potential pet owners who must always ask about the animal's background and ask to see it with its mother.

Repeated reminders to clients are essential if we are to protect our pet animals, and wildlife – foxes, for instance – from this devastating disease. We are regularly informed of puppies being sold from vans near the Channel ports.

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