Department for Environment Food & Rural Affairs

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[REDACTED]

Our ref: RFIs 8551 & 8538

24 October 2016

Dear [REDACTED],

REQUEST FOR INFORMATION: BOVINE TUBERCULOSIS

Thank you for your request for information, which we received on 26 September 2016 about bovine tuberculosis (TB). As you know, we have handled your request under the Freedom of Information Act 2000 (FOIA) and the Environmental Information Regulations 2004 (EIRs).

Our response to each question in your request is at Annex A. For ease of reference, we have included a summary of your questions in Annex A and numbered them followed by the response to each question in your request. Questions 1 to 6 and 8, 9 and 11 of your request have been handled under the FOIA (Defra ref: RFI 8551). Questions 7 and 10 have been handled under the EIRs (Defra ref: RFI 8538).

We attach Annex B, which explains the copyright that applies to the information being released to you.

We also attach Annex C giving contact details should you be unhappy with the service you have received.

If you have any queries about this letter please contact me.

Yours sincerely,

[REDACTED]

[REDACTED]
EIRS/FOIA Case Officer
Information Rights Team
InformationRequests@defra.gsi.gov.uk

Annex A

The text from your request is emphasised in bold followed by our response to each of your questions:

1. Can you please breakdown the "over £100 million worth of taxpayers money" for me and let me know how this is spent.

The following table provides a breakdown of Defra expenditure on TB eradication in 2015/16 excluding Defra admin costs.

Activity	Cost
Animal and Plant Health Agency delivery costs	£63.7m
Net compensation for compulsorily slaughtered cattle	£21.2m
R&D and laboratory services	£9.5m
Net cost of tuberculin (for TB skin testing)	£1.9m
Badger control costs	£1.8m
Purchase of market price data	£0.2m
Haulage of TB reactor cattle	£1.0m
Badger vaccination support	£0.1m
TB reactor slaughter costs	£0.7m
Other TB reactor disposal costs	£0.1m
Farmer advice	£0.2m
Other costs	£0.9m
Total	**£101.3m**[#]

* In addition to this expenditure, an additional£1.8m in policing costs for 2015/16 were also funded by Defra.

[#] Costs were funded from a combination of UK exchequer funding and £11m EU funding.

2. Can you please advise how many of the 28,000 cattle that had to be slaughtered last year actually had TB. The test in itself is not 100% conclusive and I would like to understand how many of these were actually confirmed cases of TB.

National Statistics available at the link below report that of the 28,033 cattle slaughtered in England to control TB in 2015: (i) 27,381 were compulsorily slaughtered as TB reactors, i.e. because they responded to the tuberculin skin test or the interferon-gamma test in a way that was consistent with them being infected with *Mycobacterium bovis* (the bovine TB bacterium). With both tests, the likelihood of false *negatives* is higher than false positives; (ii) 507 were compulsorily slaughtered as direct contacts considered to have been exposed to *Mycobacterium bovis*; *and (iii)* 145 were slaughtered as inconclusive TB reactors.
www.gov.uk/government/statistics/incidence-of-tuberculosis-tb-in-cattle-in-great-britain

Approximately 50% of all reactors have post-mortem or bacteriological evidence of infection with *M. bovis*. However, it is important to appreciate that, rather than identify the bacterium itself, the ante-mortem diagnostic tests for TB in live cattle measure immunological markers of infection. Those tests are more sensitive and detect infection

earlier than looking for gross lesions of TB in the organs/carcases of test-positive cattle in the slaughterhouse (post-mortem meat inspection), or trying to culture the bovine TB bacterium in the laboratory. Therefore, failure to identify lesions of TB or to isolate the bacterium itself in tissue samples from a skin or interferon-gamma test reactor, does not imply a false positive result.

3. Can you please let me know what the unit cost is to a) shoot a badger compliant with the current guidelines and b) trap and vaccinate a badger.

We do not hold this information. However, you may be interested in the following documents available at:

www.gov.uk/government/collections/bovine-tb-controlling-the-risk-of-bovine-tb-from-badgers

- Measures to address bovine TB in badgers: impact Assessment (2001)

- Bovine TB: badger control policy value for money analysis (2015 and 2016)

4. Can you please evidence the success criteria you reference in New Zealand and Ireland. How have you defined "working"?

New Zealand is on the verge of achieving international TB-free status by cattle and deer controls combined with culling of brush-tailed possums. As a result, the number of infected cattle and deer herds in New Zealand has dropped from 1,700 in the mid-1990s to less than 100 now.

The Republic of Ireland is making steady progress towards achieving TB-free status with herd incidence falling from 5.86% in 2004 to 3.37% in 2015 as a result of a comprehensive eradication programme. The current badger culling strategy involving up to 30 percent of agricultural land has been in place since 2004. In contrast, TB levels in Northern Ireland where there has been no badger culling policy have remained relatively static (around 6%) over the same period.

5. What is the risk to human health of cattle infected with TB?

Humans can catch TB from cattle infected with TB (*Mycobacterium bovis*). The risk to humans in the UK is considered very low. The European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control have advised that the main transmission routes of *M. bovis* to humans are through drinking raw milk or eating raw milk products from TB-infected cows. Historically, before the introduction of milk pasteurisation and tuberculin testing of cattle herds in the UK, *M. bovis* infection in humans was much more common. *M. bovis* can also be transmitted through direct contact with infected animals. EFSA has advised that there is no evidence suggesting that *M. bovis* is a meat-borne hazard for humans in the EU.

6. Can cattle that have been slaughtered because of a positive TB test be sold for meat? Where can they be sold to? Where can they not be sold to?

Meat from cattle which have passed official veterinary ante- and post-mortem inspection at the slaughterhouse may be placed on the market. This may include meat from cattle which were compulsorily slaughtered because they responded to the tuberculin skin test or the interferon-gamma test in a way that was consistent with them being infected with *Mycobacterium bovis*.

7. You mention that TB was first found in English badgers in 1971. From where did this TB originate?

From an ad hoc survey of badgers undertaken by the then State Veterinary Service in the Wotton-under-Edge/Dursley area of South Gloucestershire, in which TB incidence and the level of recurrent TB breakdowns in cattle herds had remained higher than the national average, despite annual testing of cattle herds. This localised badger survey was triggered by the detection of TB in a badger found dead on a local farm in April 1971. Further information is available in the following publications:

Muirhead, R.H. (1972) State Veterinary Journal 27 Sept 1972, 197-205.

Muirhead, R. H., Gallagher, J. & Burn, K. J. (1974) Tuberculosis in wild badgers in Gloucestershire: epidemiology. The Veterinary Record 95, 552-555.

8. You mention that in 1974 badgers were removed from a severely infected cattle farm with the result that there were no herd TB outbreaks there for five years. What happened in 1979? This infers that TB returned. What was the source of the TB outbreak in 1979? Where was this herd?

The source of the statement is:

Little, T.W.A *et al* (1982) Bovine tuberculosis in domestic and wild mammals in an area of Dorset. II. The badger population, its ecology and tuberculosis status. J. Hyg., Camb. (1982), 89, 211-224.

This paper is available at:
www.ncbi.nlm.nih.gov/pmc/articles/PMC2134207/pdf/jhyg00026-0039.pdf.

9. You mention that the Krebs Review observed that between 1975 and 1979 when gassing was used to remove badgers, cattle TB incidence in the South-West fell from 1.65% to 0.4%, a 75% reduction. Subsequently, in the late 1970s and early 1980s, more widespread badger removal was carried out in three areas. In Thornbury, Gloucestershire, cattle TB incidence fell from 5.6% in the ten years before badger removal to 0.45% in the fifteen years afterwards, a reduction of 90%. In Steeple Leaze, Dorset, there were no herd TB outbreaks for seven years after badgers were removed. In Hartland, Devon, cattle TB incidence dropped from 15%

in 1984 to just 4% in 1985, a reduction of more than two thirds. This is old data. What is the current TB incidence for these locations?

The Independent Scientific Review Group (Krebs) report published in 1997 states that:

'*Four large-scale badger clearances have been carried out, at Thornbury in Avon (104km^2), at Steeple Leaze in Dorset (12 km^2), at Hartland in North Devon (about 62km^2) and in an area of East Offaly in the Irish Republic (738km^2). All four clearances were followed by a reduction in the incidence of TB in cattle'.*

We are writing to advise you that the information that you have requested on the current TB incidence for the three locations is not held by Defra. We do not hold information on the precise location for the three locations in England so we are unable to provide accurate information on the current TB incidence. We can confirm that to the best of our knowledge the information is not held by another public authority.

National Statistics on TB incidence at regional and county level are available at: www.gov.uk/government/statistics/incidence-of-tuberculosis-tb-in-cattle-in-great-britain and you can determine TB incidence at bespoke locations (e.g. parishes) using the iBTB mapping tool available at http://www.ibtb.co.uk/

10. You mention that following concerns that those exercises lacked rigorous scientific 'controls' the government commissioned the Randomised Badger Culling Trial (RBCT). Despite the challenge of the Foot and Mouth Disease outbreak, the RBCT showed that in the four years after proactive badger removal there was a significant reduction in cattle TB incidence relative to control areas. The greatest relative reduction seen was 54% in the eighteen months after proactive badger removal operations, when the full benefits began to appear. The RBCT confirmed what the previous exercises had shown. How many badgers were killed to achieve this objective? What proportion of the badger population in the affected area was that? What was the unit cost of each badger killed? How many cattle showed incidence of TB prior to that trial and how many showed incidence of TB after that trial?

Information on the Randomised Badger Culling Trial (RBCT) research is available in the Final Report of the Independent Scientific Group on Cattle TB, June 2007 and the Final Report of Defra research project SE3279 - Further statistical analysis of the Randomised Badger Culling Trial, October 2013. These documents are available at:

http://webarchive.nationalarchives.gov.uk/20110911090544/http://www.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/tb/isg/report/final_report.pdf

http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17993

11. What is the cause of the shortage of vaccination?

The cause of the shortage of the authorised badger TB vaccine 'BadgerBCG®' and the licensed human equivalent 'BCG Vaccine SSI®' is a long-running manufacturing issue.

Annex B

Copyright

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Annex C

Complaints

If you are unhappy with the service you have received in relation to your request you may make a complaint or appeal against our decision under section 17(7) of the FOIA or under regulation 18 of the EIRs, as applicable, within 40 working days of the date of this letter. Please write to [REDACTED], Head of Information Rights, Area 4A, Nobel House, 17 Smith Square, London, SW1P 3JR (email: InformationRequests@defra.gsi.gov.uk) and he will arrange for an internal review of your case. Details of Defra's complaints procedure are on our website.

If you are not content with the outcome of the internal review, section 50 of the FOIA and regulation 18 of the EIRs gives you the right to apply directly to the Information Commissioner's Office (ICO) for a decision. Please note that generally the ICO cannot make a decision unless you have first exhausted Defra's own complaints procedure. The ICO can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF