

Analysis of further data (to 28 August 2011) on the impacts on cattle TB incidence of repeated badger culling

Original Article

The Duration of the Effects of Repeated Widespread Badger Culling on Cattle Tuberculosis Following the Cessation of Culling

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Christl A. Donnelly^{1*}, Helen E. Jenkins¹, Rosie Woodroffe²

¹ Department of Infectious Disease Epidemiology, Imperial College London, London, United Kingdom

² Institute of Zoology, London, United Kingdom

* E-mail: c.donnelly@imperial.ac.uk

Since publication of the paper "The duration of the effects of repeated widespread badger culling on cattle TB following the cessation of culling" in February 2010 an additional two years of cattle testing data have become available. These allowed analyses to be updated, following updates published as comments in May and July 2010 and March 2011.

In the time period from one year after the last proactive cull to 28 August 2011 (the post-trial period), the incidence of confirmed breakdowns in the proactive culling trial areas was 28.0% lower (95% CI: 15.0% to 39.1% lower) than in survey-only areas, and on lands up to 2km outside proactive trial areas was 4.1% lower (95% CI: 25.7% lower to 23.7% higher) than outside survey-only areas.

Exploratory analyses stratified by 6-month periods (Table 1) are consistent with an ongoing, but diminishing (test for temporal trend $p=0.008$), benefit of proactive culling continuing through the latest 6-month period analysed (55 to 60 months post-trial).

The effects observed outside trial areas remained consistent with no ongoing effects of proactive culling in these areas.

The post-trial results must, of course, be considered in the context of the smaller reduction seen inside proactive trial areas and the increased incidence seen outside proactive trial areas in the period from the end of the initial proactive cull until one year after the last proactive cull in each triplet. From the start of the RBCT to 28 August 2011, incidence of confirmed breakdowns in proactive culling areas was 25.7% lower (95% CI: 18.7% to 32.2% lower) than in survey-only

areas. In areas up to 2km outside the trial area boundary of proactive culling areas, incidence of confirmed breakdowns was 7.6% higher (95% CI: 14.2% lower to 35.1% higher) than in areas up to 2km outside survey-only areas.

Table 1 Estimated effects of proactive culling on the incidence of confirmed cattle TB breakdowns inside trial areas. Analyses adjust for triplet, baseline herds, and historic TB incidence (over three years). Results are split by 6-month period post-trial and include breakdowns from one year after the last proactive cull to 28 August 2011.

Time period (post-trial) Estimate (95% confidence interval) p-value

Time period (post-trial)	Estimate (95% confidence interval)	p-value
Months 1-6	-49.4% (-69.4%, -16.3%)	0.008
Months 7-12	-38.4% (-62.0%, -0.1%)	0.049
Months 13-18	-48.0% (-66.8%, -18.8%)	0.004
Months 19-24	-24.7% (-50.0%, 13.4%)	0.17
Months 25-30	-28.4% (-54.6%, 12.9%)	0.15
Months 31-36	-8.0% (-41.2%, 44.1%)	0.72
Months 37-42	-28.9% (-53.5%, 8.7%)	0.12
Months 43-48	-27.8% (-55.0%, 16.0%)	0.18
Months 49-54	-16.6% (-47.3%, 31.8%)	0.44
Months 55-60*	-10.8% (-44.4%, 43.2%)	0.64

[* This time period had 4.6 triplet-years of data as of 28 August 2011; other time periods had the full 5.0 triplet-years.]

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No competing interests declared.

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