

Analysis of further data (to 2 July 2010) 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

Analysis of further data (to 2 July 2010) on the impacts on cattle TB incidence of repeated badger culling

Posted by **ChristlDonnelly** on **22 Jul 2010** at **20:21 GMT**

Analysis of further data (to 2 July 2010) on the impacts on cattle TB incidence of repeated badger culling

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" an additional twelve months of cattle testing data have become available. These allowed analyses to be updated, following an update published as a comment in May 2010.

In the time period from one year after the last proactive cull to 2 July 2010 (the post-trial period), the incidence of confirmed breakdowns in the proactive culling trial areas was 34.1% lower (95% CI: 23.0% to 43.6% lower) than in survey-only areas, and on lands up to 2km outside proactive trial areas was 5.6% lower (95% CI: 31.0% lower to 29.1% higher) than outside survey-only areas.

Exploratory analyses stratified by 6-month periods (Table 1) are consistent with a ongoing, but diminishing (test for temporal trend $p=0.037$), benefit of proactive culling continuing through the latest 6-month period analysed (43 to 48 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 2 July 2010, incidence of confirmed breakdowns in

proactive culling areas was 28.3% lower (95% CI: 20.9% to 35.0% 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 9.0% higher (95% CI: 15.5% lower to 40.7% 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 2 July 2010.

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

 Months 1-6 -52.2% (-71.0%, -21.2%) 0.004
 Months 7-12 -40.5% (-63.0%, -4.2%) 0.033
 Months 13-18 -49.1% (-67.2%, -20.9%) 0.003
 Months 19-24 -27.2% (-51.4%, 9.0%) 0.12
 Months 25-30 -30.3% (-55.6%, 9.4%) 0.12
 Months 31-36 -8.4% (-41.3%, 43.0%) 0.70
 Months 37-42 -31.4% (-54.9%, 4.2%) 0.077
 Months 43-48* -25.0% (-57.4%, 31.9%) 0.32

[* This time period had 4.3 triplet-years of data as of 2 July 2010; other time periods had the full 5.0 triplet-years.]

Funding: The authors gratefully acknowledge the support of the United Kingdom Department of Environment, Food and Rural Affairs (Defra; <http://www.defra.gov.uk/i...>) for this work. CAD thanks the United Kingdom Medical Research Council (<http://www.mrc.ac.uk/inde...>) for Centre funding. HEJ thanks the Medical Research Council for a studentship.

No competing interests declared.

Report a Concern

Respond to this Posting

See all ongoing discussions on this article

All site content, except where otherwise noted, is licensed under a Creative Commons Attribution License.