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Rt Hon Michael Jack MP
Chairman
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Dear Michael,

BADGERS AND BOVINE TB REPORT

I have seen the comments sent to you by John Bourne and his former colleagues on the ISG and by Professor Denis Mollison in response to my report on badgers and bovine TB in cattle.

Mark Woolhouse, Tim Roper and I have subsequently had a constructive meeting with John Bourne, Christi Donnelly and Rosie Woodroffe at which we discussed our respective reports and their subsequent comments. We all agreed on virtually all of the key scientific issues.

We agree that the scientific data support the conclusion that culling gives an overall beneficial effect on TB in cattle in those areas where there are high and persistent levels of TB in cattle, providing the culling of badgers:

- is done competently and efficiently;
- is coordinated;
- covers as large an area as possible (265 km² or more is the minimum needed to be 95% confident of an overall beneficial effect);
- is sustained for at least four years; and
- the culled areas have "hard" or "soft" boundaries where possible.

We also agreed on the ecological effects, considering that badger culling prompted:

- immigration of badgers into culled areas;
- disruption of badger territories;
- expanded ranging of badgers;
- reduced clustering of infection in cattle outside the culled area;
- reduced clustering of infection in badgers; and
- elevated prevalence of bovine TB within the decreased population of badgers.

Although it does not alter the conclusion that culling could have an overall beneficial effect, one substantial area of disagreement between John and me is over the biological plausibility of the results obtained between the first and second cull. As both the Godfray report (2004)¹ and More et al (2007)² note, there is a need to link cause (culling) and effect (herd breakdowns) within a plausible timeframe. Including the results from the first to the second cull reduces (but does not remove) the overall beneficial effect of culling on herd breakdowns seen in the RBCT results. Discounting the initial year of results increases the beneficial effect and decreases the deleterious edge effect.

John and I also differ on the extent of the overall beneficial effect. He considers that it is "modest" whereas I consider that it is much more significant and that the benefits will increase over time with sustained culling. Since the end of the RBCT, Christl Donnelly has been monitoring the incidence of TB in cattle in and immediately outside the proactively culled areas. The new data show a further overall beneficial effect in the eighteen months since culling stopped. This demonstrates that there is a significant trend for the beneficial effects to increase and the detrimental effects to reduce over time. Christl is continuing this monitoring and further data will become available in the new year.

John's support for the conclusion that there is an overall beneficial effect can be found in peer reviewed papers (Donnelly et al., 2007; Donnelly et al., 2006)^{3,4} that he and ISG colleagues published ahead of the ISG's final report. He acknowledged this when he appeared before your Committee on 24 October and has confirmed it in his answer to question 5 of your follow-up questions in which he says "Our analyses indicate that modest overall benefits could be obtained by culling badgers in a simultaneous and coordinated fashion over large areas of the countryside and repeating such culls over several years".

I am disappointed that, in their final report and again in their letter to you, the ISG chose to dismiss this conclusion, not for scientific reasons, but on the basis of assumptions and opinions about the practicality and cost of culling. Unlike the scientific data, these sections of the report and their interpretation have not been peer reviewed. In advising on whether or not culling of badgers might be a policy option for the control of TB in cattle, I would therefore urge you to acknowledge that the scientific data support culling, but that the issues of cost and practicality require more comprehensive and considered assessment than the ISG gave them.

John and I also disagree on whether increased cattle controls alone can bring TB in cattle under control. John believes they can, partly on the basis of a simplified mathematical model (Cox et al., 2005)⁸ but also because he overstates the contribution that cattle movements make to the incidence of TB in cattle. I remain of the view that even though TB control by cattle-only measures could have an impact, control which includes measures aimed at tackling the reservoir of infection in badgers will be more rapid and more effective. Given the ISG's very clear conclusion that badger-to-cattle transmission is the major contributor to herd breakdowns, I would ask you to consider whether it is realistic or reasonable to rely on cattle controls alone.

I am disappointed that the scientific evidence presented within the main body of the ISG final report which supports the conclusion that culling could be beneficial was not reflected in the Chairman's statement in his overview of the ISG's final report "that badger culling cannot meaningfully contribute to the future control of cattle TB in Britain". I am also disappointed that some of his subsequent comments may have misrepresented the situation. Examples are included in my comments, attached, on the more detailed points made by the former members of the ISG and Professor Denis Mollison.

I am copying this letter to Hilary Benn, Secretary of State, and Jeff Rooker, Minister for Animal Health, at Defra and to Professor John Bourne.

As ever

Dave King