Introduction

Bovine tuberculosis (BTB) is a disease of serious economic consequence in Great Britain (GB) and the Republic of Ireland (ROI) (Table 1). Although BTB has been largely eradicated across most of Europe, ‘hot-spot’ regions of disease remain (Figure 2A,3). Persistence of BTB in these areas has been attributed to the presence of badgers (Meles meles) as a wildlife vector of the disease. Badger culling trials were undertaken in GB and the ROI to determine the impact badger removal had on BTB incidence. In the ROI, badger culling was shown to be effective in reducing the number of BTB breakdowns in cattle herds, while in GB, the opposite was found – ‘reactive’ badger culling had the potential to increase breakdowns, most likely due to a “perturbation” effect (Table 2).

The objective of this research was to compile available data to allow an assessment of the epidemiology of the BTB epidemics and the culling trials in both countries.

Method

Baseline cattle, badger and BTB control regime statistics for GB and ROI were collated from the respective government bodies and the scientific literature. The published literature regarding the badger culling trials was examined and a comparative table was compiled (Table 2).

Results and Conclusions

The inclusion of natural boundaries in the ROI trial is claimed to have reduced the perturbation effect that was observed in the GB trial. However, other factors may have impacted on the discrepancy in the trials results, for example badger density, badger trapping efficiency and herd demographics. It is difficult to compare the actual BTB situation in both countries due to the differences in testing regimes applied; while every herd in Ireland is required to undergo a once yearly BTB test, in GB, the frequency of BTB tests depends on the TB status of the local parish, with testing regimes applied every 1, 2, 3 or 4 years. Though the trial sites underwent the same BTB testing regimes, the differences in the intervals between tests in GB and ROI make true herd incidence comparison a very difficult task, but one that is essential to allow a conclusive examination of both trials. Further work is required to reconcile the differences in herd demographics and BTB testing regimes in both countries to allow most likely BTB incidence in both countries to be established.

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