Badgers, farm buildings and bovine tuberculosis (*Mycobacterium bovis*) in cattle: the practical importance of understanding host behavior

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Management of disease in wildlife populations is challenging, not least because host behavior and ecological conditions present substantial practical constraints and can influence the outcome of interventions in unpredictable ways. Understanding the behavior of infected hosts may provide valuable insights into how to more effectively target management interventions. Badgers have been implicated as a wild maintenance host of *Mycobacterium bovis* and source of infection for UK cattle. Intensive behavioral studies provided evidence of widespread and frequent visits by badgers to a variety of farm facilities where they may contaminate cattle feed and come into close direct contact with cattle. Further evidence suggested that animals in advanced stages of disease progression may be more likely to visit farm buildings than uninfected individuals. On some farms visits to buildings could be the single most important risk factor for *M. bovis* transmission between badgers and cattle. An understanding of badger foraging behavior may provide insights into spatio-temporal variations in the likelihood of such visits, which may be influenced by the impact of weather conditions and habitat characteristics on the availability of natural foods. Experimental investigations identified practical measures that are highly effective in preventing badger visits to farm buildings, although their cost-effectiveness in terms of reduced disease risk is unknown. A better understanding of the relationship between host infection status, behavior and the likelihood that an animal will visit farm facilities may provide valuable information on where and when intervention measures are likely to be most effective.