Interactions between beef cattle and simulated tuberculous possums on pasture.

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Abstract

Brushtail possums (Trichosurus vulpecula) were sedated with ketamine and placed within a fenced observation area with 17 Hereford cross steers. The behaviour of the sedated possums simulated that of terminally ill possums. Behavioural analysis was carried out during eight observation periods in which sedated possums were successfully released and interactions occurred. Cattle were attracted from over 50 m away by the movements of the possums, and for 34% of observation time cattle investigated the possums. Inactive animals engendered far less interest, and cattle investigated them for 3% of observation time. An average of seven to eight cattle came in physical contact with the possum in each of the observation periods. Cattle actively investigated the possum while following it as it moved, commonly close enough to be within aerosol transmission distance, and some sniffed the possum, touched it with their noses, and in many cases licked it extensively. All of these activities would expose the cattle to high risk of receiving an infective dose of Mycobacterium bovis, especially via the respiratory route. The type and duration of contact between individual steers and the possum varied between animals and observation period. The cattle exposed themselves to greater risk, overall, during the first week of observations, and there was evidence of habituation with increased contact. Although all 17 steers came within 5 metres of the possum at some point during the observation periods, some individual cattle behaved in ways which would put them at greater risk of contracting tuberculosis than did others. Cattle showed little interest in possum carcasses placed on pasture. These were unlikely to be a significant source of infection for cattle, although they could be for scavenger species.

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