

LETTERS

The infectiveness of bovine tuberculosis

Sir,

I must make a brief response to Turnbull's suggestion (1995 *Animal Welfare* 3: 340) that I am misinformed in my belief that cattle are infectious immediately after exposure to the tuberculosis organism. There seem to be two schools of thought on this issue, and yet it is one of critical importance in tackling the final stages of tuberculosis eradication schemes. On the one hand it is claimed that only cattle with gross visible lesions at abattoir inspection are capable of passing on tuberculosis (TB) to other cattle (Gallagher 1980; Dunnet *et al* 1986; Turnbull 1994; Wilesmith & Williams 1986). On the other hand this view is not substantiated by other studies on the aetiology and pathogenesis of cattle TB. For most adult cattle, tuberculosis seems to start as a lung infection following inhalation of infected aerosolised sputum or dust. Primary lesions may heal, but more usually they remain open, and may persist as the subclinically latent condition, or progress slowly or rapidly to chronic, or fatal and acute bronchopneumonia. And even where an apparent sealed tubercle develops, it would seem that intracanalicular bronchiolar spread continues, such that intermittent or continuous bacterial shedding occurs in the sputum. Therefore cattle with micro-lesions that would be missed at gross abattoir inspection could be infectious to other cattle despite being non-visibly-lesioned in the lungs or visibly-lesioned only in broncho-mediastinal lymph nodes. Such cattle may also be producing infectious faeces via swallowed sputum (Blood *et al* 1979; Francis 1947; Jubb & Kennedy 1970; Neill *et al* 1994; Richards 1972).

All this makes it more than likely that there is spread of tuberculosis both within

a herd and between herds from recently infected non-visibly-lesioned cattle and that these animals are also capable of passing the infection on via their faeces to badgers sharing the same general environment.

Blood D C, Henderson J A and Radostits O M 1979 *Veterinary Medicine*. Baillière Tindall: London, UK

Dunnet G M, Jones D M and McInerney J P 1986 *Badgers and Bovine Tuberculosis*. HMSO: London, UK

Francis J 1947 *Bovine Tuberculosis*. pp 89-125. Staples: London, UK

Gallagher J 1980 The role of other animals in the epidemiology of TB of the Badger. In: Zuckerman (ed) *Badgers, Cattle and Tuberculosis* pp 86-98. HMSO: London, UK

Jubb K V F and Kennedy P C 1970 *Pathology of Domestic Animals*. Academic Press: New York, USA

Neill S D, Pollock J M, Bryson D B and Hanna J 1994 Pathogenesis of *Mycobacterium bovis* infection in cattle. *Veterinary Microbiology* 40: 41-52

Richards R A 1972 *Inquiry into Bovine Tuberculosis in West Cornwall*. Ministry Agriculture: London, UK

Turnbull A 1994 Tuberculosis in cattle and badgers. *Animal Welfare* 3: 340

Wilesmith J W and Williams D R 1986 Tuberculosis lesions in reactor cows. *Veterinary Record* 118: 51

*M Hancox
Stroud
Gloucestershire*