

SPREAD OF *TRITRICHOMONAS FOETUS* IN BEEF BULLS IN AN INFECTED HERD

Bulls less than 3 years of age are difficult to infect with *Tritrichomonas foetus* and trichomoniasis has been controlled in a large Victorian herd by using young bulls for mating and culling non-pregnant cows (Clark *et al* 1974). Christensen *et al* (1977) described progressive changes in the occurrence of *Tritrichomonas foetus* infection in young replacement bulls in a large north-western Queensland beef herd. In this infected herd, 325 two-year-old Brahman bulls were introduced 1 to 3 months after the removal of 300 eight-year-old Shorthorn and Santa Gertrudis bulls. A survey of 30 of the old bulls at the time of removal from the herd in 1973 showed that 14 (47%) were infected with *Tritrichomonas foetus*. Two years after introduction, only 3 (4%) out of a sample of 80 of the replacement bulls were found to be infected although the prevalence of infection in older bulls in other herds in the region remained high (unpublished data). This communication reports a further examination of the replacement bulls 4 years after introduction when the bulls were 6 years of age.

During August and October 1977, the penis and prepuce were collected from each of 112 of the replacement bulls at slaughter. Within 3 hours of slaughter the penis, in the region of the glans penis, was scraped with a sterile scapel blade and the scrapings inoculated into tubes of modified Plastring medium (Clark *et al* 1971). The cultures were examined after 4 days' incubation at 37°C. *T. foetus* was isolated from 15 (13.4%) of the 112 bulls.

The number of replacement bulls found to be infected after 4 years in the infected herd was significantly ($\chi^2_1 = 5.11$, $P < 0.025$) greater than the number infected after 2 years, but significantly

($\chi^2_1 = 16.09$, $P < 0.005$) less than the number of old bulls found infected at the time of replacement.

Control of *T. foetus* infection in large herds in northern Australia could probably be achieved by the exclusive use of young bulls for mating although complete elimination would require substantial changes in management.

Our observations in this herd suggest that bulls would need to be routinely culled at 4 years of age in order to minimise venereal transmission of *T. foetus*.

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