



Research on wildlife diseases

Bovine Tuberculosis and Brucellosis



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Fakulteit Veeartsenykunde
Lefapha la Diseanse tša Bongakadiruiwa

Wildlife are valuable and increasingly on the move within South Africa as they are translocated in their tens of thousands every year. Through this movement these animals may either be a source of infection to animals already in the areas to which they have been moved, or alternatively they may be susceptible to diseases they previously have never been exposed to.

Wildlife diseases are particularly important within the context of the interface between domestic animals, wildlife, humans, and the environment, and have an impact on ecosystem health in its broadest sense. Crucial research on wildlife is conducted in the Faculty to understand that a number of diseases such as bovine tuberculosis (BTB), brucellosis, anthrax, and foot-and-mouth disease (FMD) play a roll in wildlife, using cutting-edge techniques ranging from molecular biological techniques to epidemiology. It is also aimed at the holistic control of wildlife disease outbreaks.

Bovine Tuberculosis

- Diagnosis of bovine tuberculosis in buffaloes, lions, rhinoceros, and elephant
- Epidemiology of bovine tuberculosis in wildlife
- Molecular characterisation of bovine tuberculosis outbreak isolates (including back- and forward tracing of cases)
- Multi disciplinary approach to determine the impact of bovine tuberculosis on humans, and their livestock
- Validating an iELISA for sable infected with *Brucella melitensis* in collaboration with the ARC- Onderstepoort Veterinary Institute (OVI)

Brucellosis

- Improvement of selective media, establishing in-house serological assay for bovine brucellosis, and using PCR for the identification of *Brucella spp.*
- Molecular characterisation and comparison of *Brucella melitensis* isolated from animals and humans in South Africa
- Prevalence and characterization of brucellosis in animals and abattoir workers in Gauteng
- Holistic improvement of diagnostic tests and the control of brucellosis

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