

Infectious causes of reproductive failure in beef cattle in SA

In 2008, PIRSA conducted a serological survey of beef and dairy cattle properties in South Australia.

A random sample of 16 blood samples was collected from each of 32 dairy and 83 beef properties and analysed for the presence of antibodies against Bovine Viral Diarrhoea (BVD). A questionnaire was administered to the participating properties and results are available from 111 farms.

While sera from dairy properties were assayed for three pathogens (BVD, Neospora and Leptospirosis) that may be causes of reproductive failure, the beef sera were never assayed for the presence of antibodies against *Neospora caninum* or leptospirosis. A number of sera from about 60 odd beef properties from that 2008 sampling are still available and could be assayed, by ELISA, for the two remaining pathogens (and possibly Liver fluke antibodies), and the results analysed in conjunction with and against the questionnaire results.

Hence the Aims of this project are to establish the relative and absolute contribution of leptospirosis and neosporosis to reproductive failure in beef cattle in SA. To this end the study will establish (Objectives) the seroprevalence of both, leptospirosis and neosporosis on beef cattle properties in SA, and analyse the questionnaire results in conjunction with the serology data with a view of identifying any relevant risk factors.

This project involves some laboratory work, data manipulation and analysis and might suit a student with an interest in laboratory diagnostic work as well as epidemiological analysis.

Some experience with the manipulation of Excel spreadsheets would be a distinct advantage.