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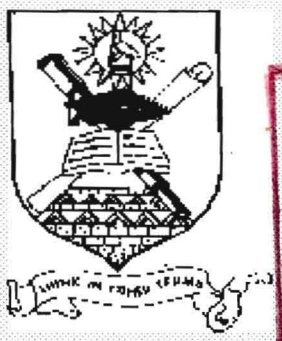

THE SEROLOGICAL RESPONSE OF CATTLE TO Theileria parva BOLENI VACCINATION (BOLVAC) AND DETERMINATION OF CROSS-REACTIVITY BETWEEN T parva AND T. taurotragi BY INDIRECT FLUORESCENT ANTIBODY TEST (IFAT)

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ABSTRACT

Two groups of Bos Taurus cattle, Group A and B were immunised against Theileriosis using the Theileria parva Boleni (BOLVAC) a Zimbabwean parasite isolate. Group A animals were immunised using a 1:20 BOLVAC dilution in stabilate diluent. Group B animals were immunised with 1:30 BOLVAC dilution. All animals including unvaccinated controls (Group C) were challenged on day 35 post immunisatic)n using T. parva Avery, a virulent Theileria p arasite. Serum was collected from all groups before immunisation, on day 28 after immunisation, day 35 post immunisation or prior to challenge day 28 post challenge and levels of antibodies were assayed by the indirect Fluorescent Antibody Test (IFAT).

When thirteen (13) Monoclonal Antibody profiles were used to check for antigen purity for both T. parva Boleni and T. taurotragi, no contamination was detected. Using the IFAT to detect antibodies to T. parva Boleni macroschizont antigen, Group A cattle responded to the 1/20 BOLVAC dilution, since there was a significant difference ($p < 0.05$) between the pre-immunisation and day 28 post anntibody titres. However, there was no statistically difference ($p < 0.05$) between the pre-immunisation and post-immunisation antibody titres, for the 1/30 dilution using the same antigen. When sera from groups A and B were tested by IFAT using T. taurotragi macroschizont antigen, no significant differences ($p < 0.05$) were present for both pre-immunisation and post-immunisation as well as pre-challenge and post-challenge sera. However, sera from control cattle had a significant ($p < 0.05$) increase in titres post-challenge for both T.taurotragi antigen and T.parva Boleni antigen.