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## **Seroepidemiology of rinderpest in bovids in Sri Lanka using the enzyme linked immunosorbent assay (ELISA) technique.**

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### **Abstract**

Approximately 0.2% (n = 4397) of the bovids (cattle and buffalo) in Sri Lanka were sampled, from June 1992 using a multi-stage sampling procedure. Serum antibodies for the rinderpest virus were detected using the competitive enzyme-linked immunosorbent assay. The age, the agroclimatic zone, the management system practiced in the farms, and the vaccination history of the sampled bovids were studied as potential risk factors for being seropositive. The prevalence of rinderpest antibodies in non-vaccinated bovids was 3.5% (n = 4101). The prevalence was higher in the dry zone (9%; where the outbreak emerged in 1987), compared to bovids in the other zones (1%). Seropositive bovids over three years of age were approximately at fourfold higher chances of being seropositive compared to those that were < or = 3 years old. The higher prevalence in older animals is probably due to exposure to the virus during the 1987 epidemic. Bovid from the dry zone (annual rainfall 20 to 35 inches) were at higher odds of being seropositive even after controlling for the possible effects of age, agroclimatic zone, management system and vaccination. The fact that 62% of bovids from the dry zone in this study were reared under extensive management system (free grazing) which allow unrestricted contact between animals, may be the reason for the above finding. A relatively poor response to vaccination observed in vaccinated bovids (seroprevalence = 12%; n = 296) could be attributed to difficulties in maintaining the vaccine at recommended temperatures in the field. This is the first island-wide study on seroprevalence of rinderpest in Sri Lanka.