

ABSTRACT

Seroprevalence of Porcine Reproductive and Respiratory Syndrome Virus and Pseudorabies Virus in swine herds in Trinidad and Tobago

Ayanna Carla Natasha Phillips

A study was conducted to determine the seroprevalence of porcine reproductive and respiratory syndrome virus (PRRSV) and pseudorabies virus (PRV) in the swine population of Trinidad and Tobago. The association between the seroprevalence of each virus and each of four demographic factors (gender, age group, farm size, and geographic location), was also investigated. Farms were classified as large (>1000 sows) or small, and three age groups were sampled – nursery pigs, growers, and breeders. A multistage sampling design with non-proportional sampling between farm sizes was employed. A total of 1623 serum samples were tested for PRRSV and 1513 for PRV. These samples represented the three large farms and 133 randomly chosen small farms. The IDEXX HerdChek PRRS Virus Antibody Test Kit 2XR enzyme-linked immunosorbent assay (ELISA) and the IDEXX HerdChek AntiPRV gpI Antibody Test Kit ELISA were utilized to perform the respective serological tests. All three large farms were seropositive for PRRSV, while 16% (21/133) of the small farms were positive. The overall seroprevalence of PRRSV was 2.0% (33/1623) and 1.7% after adjusting for

non-proportional sampling between strata. Age group was the only demographic factor that had an influence on the seroprevalence of PRRSV. All nursery pigs were seronegative and the predicted odds of being seropositive was 3.2 times higher for adult breeders than for growers with the 95% confidence interval extending from 1.5 to 7.2. Only three herds were seropositive for PRV. The overall seroprevalence for PRV was 0.5% (8/1513) and 1.0% after adjusting for non-proportional sampling between strata. There was no association between the seroprevalence of PRV and any of the demographic factors studied. The study therefore established that both viruses are circulating in the pig population in Trinidad and Tobago at low levels. It would therefore be prudent to maintain an avoidance strategy to ensure that the seroprevalence remains low. Periodic monitoring of swine herds should also be an integral part of the control programme. No evidence of the clinical disease caused by the two viruses was reported by farmers or veterinarians interviewed during the study.

Keywords: Ayanna Carla Natasha Phillips; porcine reproductive and respiratory syndrome virus; pseudorabies virus; Trinidad and Tobago; seroprevalence; demographic factors.