Risk factors for African swine fever and the effect of biosecurity

Fasina, F.O.¹,², Agbaje, M.³, Ajani, F.L.O.³, Thompson, P.N.² and Bastos, A.D.S.¹, ¹University of Pretoria, Zoology and Entomology, South Africa, ²University of Pretoria, Production Animal Studies, South Africa, ³University of Agriculture, Abeokuta, College of Veterinary Medicine, Nigeria; daydupe2003@yahoo.co.uk

ASF is economically devastating for the pig industry. Data on risks of ASF are lacking from West Africa. Evaluation of risk factors supporting infection of pig farms in this region remains the key to the development of a risk-based approach to the epidemiology of ASF and control. In Nigeria, perpetual infections of certain localities with intermittent infection of contiguous areas makes it an ideal setting for a matched case-control study for risk factors and biosecurity practices in pig farms. Subsets of farms located in high-density-high-risk pig areas for ASF infection were randomly selected for this analysis. Although, routine purchase and introduction of untested pigs, infected neighbourhood, keeping of other livestock, presence of abattoir/slaughter slab within pig communities, indiscriminate disposal of visceral content of slaughtered pigs, entrance of wild birds into pig pens, and free access to feed store by rats were all associated risk factors, only the presence of abattoir within a pig farming community and the presence of an infected pig farm in the neighborhood were significant. There was a marginally significant negative association (protective) between risk of ASF infection and sharing of farm tools and equipment. Of the 28 biosecurity measures evaluated, food and water control, separation of sick pigs and washing and disinfection of farm equipment and tools were negatively associated (protective) with ASF infection. Consultation and visits of veterinarian or paraveterinarians when animals were sick, and pest and rodent control were positively associated with ASF infection of farms in Nigeria. Region-based approach to control ASF in addition to farm-based biosecurity is important as such an approach will benefit ASF control and cover other infectious diseases in Nigeria and West Africa.