

RESEARCH ABSTRACT



SWINE HEALTH

Title: Infection of domestic pigs with pseudorabies virus isolated from feral pigs.
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Abstract:

Many feral swine populations are infected with pseudorabies virus and thus represent a significant reservoir for pseudorabies virus. Infections have been confirmed through virus isolations from the genital tract of naturally infected feral swine. However, unlike domestic swine where oronasal transmission primarily occurs, transmission is believed to be venereal in feral swine herds. Research is needed to understand the risk that feral swine represent to the maintenance of pseudorabies-free domestic swine. The objectives of this project were to determine if domestic pigs can be infected with feral swine strains of pseudorabies virus via the genital and respiratory routes and to determine the extent and sites of virus shedding and latency.

We inoculated gilts and boars with a strain of pseudorabies virus that was isolated from the prepuce of a feral swine. Virus was either inoculated into the nasal cavity or into the genital tract (vagina for gilts and prepuce for boars). We found that this virus could infect both boars and gilts when inoculated by either route and that virus was primarily shed from the area of inoculation. Although the virus was difficult to reactivate by steroid treatment, it did appear to colonize the central nervous system with the sites of latency dependent on route of inoculation. We have shown that strains of pseudorabies virus isolated from the genital tract of feral swine have the potential to spread to domestic swine by either venereal or oronasal transmission and that once introduced latent infections could develop.

These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed

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