RESEARCH ABSTRACT

SWINE HEALTH

Title: Evaluation of two procedures to aid in the diagnosis of PRRS in aborted etuses and examination of the dynamics of PRRSV shedding in vaccinated and unvaccinated gilts injected with various doses of PRRSV
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I) Abstract:

PRRS is currently the most economically important viral disease of swine and the most important infectious cause of porcine abortion. Unfortunately, a definitive diagnosis of PRRS abortion is rarely established with currently available laboratory tests on fetal tissues. This study assessed whether fetal serology or PCR on fetal serum and thoracic fluid would augment our ability to diagnose PRRS in aborted fetuses. When compared with virus isolation, neither fetal serology nor PCR yielded false positive results. Fetal serology detected only 26.2% of PRRSV infected fetuses whereas PCR on fetal serum detected 80.8% and PCR on thoracic fluid detected 84.6% of infected fetuses. Although virus isolation still appears to be the gold standard for the diagnosis of PRRS when samples are collected and preserved promptly, PCR proved sensitive and specific and may have an advantage over virus isolation in filed cases where virus isolation has not proven reliable.

This study also addressed the issue of relevant field exposure to PRRSV and the dynamics of PRRSV cycling in breeding age animals. Saliva samples were collected from both vaccinated and unvaccinated gilts for 21 days following exposure to varying doses of PRRSV. A pattern of viral shedding in individual animals was not identified as PRRSV was only isolated from each animal once during the collection period. This study failed to detect an impact of exposure dose on viral shedding in saliva as only low levels of virus were isolated and there were no differences in the number of isolations between the various challenge groups. There was no statistically significant difference in the number of isolations from vaccinated compared with unvaccinated gilts. With the techniques used in this study, virus appears to be shed at low levels in saliva, is not shed continuously at detectable levels, and is shed from day 6 –12 following challenge, regardless of vaccination status.