RESEARCH ABSTRACT

SWINE HEALTH

Title: Role of maternal immunity to PCV2 and PRRSV co-infection in the pathogenesis of PMWS **- NPB# 00-094**

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Abstract:

Conventionally reared pigs from a PRRSV-negative herd were divided into groups and inoculated at 3, 6 and 11 weeks of age with either PCV2, PCV2/PRRSV or a sham inoculum. Each set of pigs was observed for 28 days post-inoculation; 3 pigs were necropsied weekly to evaluate lesion development. Serology for PCV2 was performed with an ELISA test on all pig serum samples collected prior to inoculation. Antibody levels decreased as the pigs aged, but there was a great deal of individual variation in ELISA values. PCV2 and microscopic changes were limited to those pigs with a low ELISA S/P ratio (< 0.6) at the time of inoculation. Antigen detection and lesions were more common in those pigs receiving both PCV2 and PRRSV than those receiving PCV2 only. Lesions included lymphoid depletion, interstitial pneumonia, and mild liver damage. Growth in PCV2/PRRSV-inoculated pigs was retarded compared to control or PCV2-inoculated pigs.

We conclude that passive antibody to PCV2 is protective for the development of PMWS and that concurrent PCV2/PRRSV infection increases the severity of PMWS in susceptible animals. We speculate that individual variation in antibody levels may explain the limited numbers of pigs affected in an outbreak of PMWS.