

SWINE HEALTH

Title: Effect of PCV2 vaccination on chronic PCV2 infection and determination of infectivity of PCV2 present in chronically infected pigs – **NPB #10-167**

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Scientific Abstract

The objectives were to determine transmissibility of PCV2 to naïve contact pigs 140 days after infection of resident pigs and the benefit of vaccination with live-attenuated or inactivated chimeric PCV2 vaccines on chronic PCV2 infection. Twelve 6-week old PCV2 naïve pigs were randomly divided into four groups of three pigs: negative controls, positive controls, and pigs vaccinated with either a live-attenuated or inactivated chimeric PCV1-2 vaccine. All animals were bled weekly and tested for anti-PCV2 antibodies and PCV2 and PCV1-2 DNA and all groups except negative controls were challenged at 10 weeks. Two pigs vaccinated with the live PCV2 vaccine were PCV1-2 viremic at a single observation point. Both vaccine regimens induced an anti-PCV2 antibody response, which was sooner and reached a higher level with the commercial inactivated vaccine. Both vaccines significantly decreased the concentration and duration of PCV2 viremia compared to the positive controls. PCV2 DNA was detected in lymphoid tissues of 1/3 pigs in the live-attenuated vaccine group and 3/3 positive control pigs. Three, 2-week old, PCV2 naïve contact pigs were comingled with each group at 168 days post-vaccination or 140 days post-challenge. After seven days of co-housing, the resident pigs were removed and the contact pigs remained for six weeks. Evidence of chimeric PCV1-2 vaccine or PCV2 challenge virus transmission to naïve contact pigs was lacking in all groups. The results of this study suggest that closure of a small pig population in a controlled environment may result in stabilization and elimination of PCV2.

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 This report has not been peer-reviewed.

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