

SWINE HEALTH

Title: An assessment of 3 sanitation protocols for PRRSV-positive transport vehicles – **NPB# 04-182**

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Abstract: Transport of swine in today's commercial production systems has become a major risk factor for the spread of PRRSV between sites. The purpose of this project was to determine whether contaminated trailers could serve as a source of PRRSV infection to naïve swine and to evaluate 3 methods for sanitizing PRRSV-contaminated livestock trailers. To assess the infectivity of the trailer, 4 donor pigs infected with PRRSV MN-30100 were housed in a pen within full-size trailer for a 4-hour contamination period on days 3-7 post-infection. Donors were removed and naïve recipients inserted for 4 hours (in the absence of pen sanitation) and tested post-exposure. For the purpose of assessing sanitation, the methods tested included disinfecting, the thermo-assisted-drying and decontamination (TADD) system and trailer baking. A full-size double deck livestock trailer was contaminated in 15 selected sites using a modified live PRRSV vaccine at a standard dose of 5×10^5 TCID₅₀. Inoculated sites on both the upper and lower levels included the center of the floor, front and rear corners, ceiling braces and light fixtures, and gate hinges, as well as the loading ramp used to move animals from level one to level two. Following contamination, trailers were treated with a standard and alternate protocol devised for each of the sanitation methods. Two hours after treatment, the 15 selected sites were swabbed and samples tested for PRRSV RNA by PCR. Control trailers (contaminated, no treatment) were included. Positive PCR samples were evaluated for the presence of viable virus by swine bioassay. Results indicated that naïve sentinels became infected following contact with contaminated trailer surfaces in 3/5 replicates. Regarding sanitation, all 3 methods proved to be equally effective at eliminating infectious PRRSV from the trailer interior. These results indicate that contaminated transport is a risk factor for the transmission of PRRSV from infected to naïve pigs and that multiple methods are available for reducing this risk.

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