

## PEDv in the Literature

Today we'd like to highlight a particularly interesting study that was recently published:

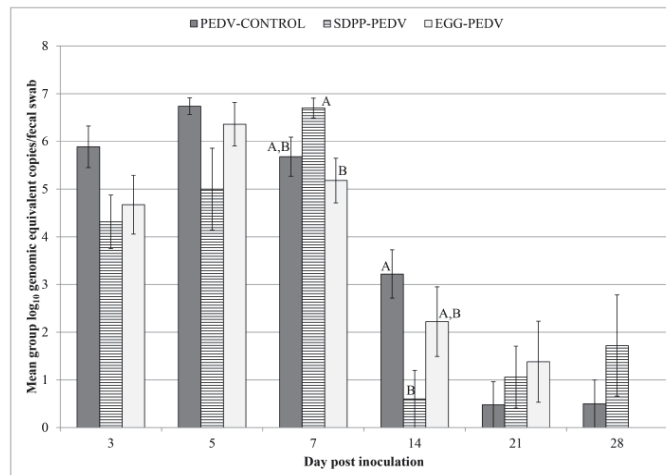
### Porcine Epidemic Diarrhea Virus RNA Present in Commercial Spray-Dried Porcine Plasma Is Not Infectious to Naïve Pigs

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Porcine epidemic diarrhea virus emerged in North America in April 2013 and has since been identified in 30 U.S. States, Canada and Mexico. The rapid spread of PEDV has raised concerns about the role of feed and particularly pork-by-product components such as spray-dried porcine plasma (SDPP) in PEDV transmission. The aim of this study was to determine the infectivity of PEDV RNA present in commercial SDPP. Specifically, 40 3-week-old PEDV naïve pigs were randomly assigned to one of five treatment groups. At day post inoculation (dpi) 0, NEG-CONTROL pigs were sham-inoculated, PEDV-CONTROL pigs received cell culture propagated PEDV, and SDPP-CONTROL pigs were switched to a diet with 5% SDPP containing 5.1 +/- 0.1 log<sub>10</sub> PEDV RNA copies/g. To evaluate a potential positive effect of anti-PEDV antibodies in SDPP on PEDV challenge, four days prior to PEDV challenge the pigs in the SDPP-PEDV group were switched to and remained on a 5% SDPP diet through dpi 28. Another group, EGG-PEDV, was orally administered a commercial egg-derived liquid PEDV globulin product from dpi -4 through 6. All PEDV-CONTROL pigs began shedding PEDV in feces by dpi 3 and seroconverted between dpi 7 and 14, whereas pigs in NEG-CONTROL and SDPP-CONTROL groups remained PEDV RNA negative and did not seroconvert to PEDV for the study duration. This indicates no evidence of infectivity of the PEDV RNA in the SDPP lot utilized. Furthermore, under the study conditions SDPP or egg-derived liquid PEDV globulin addition did not significantly alter PEDV-shedding or overall disease course after experimental challenge.



**Figure 1:** Group mean PEDV RNA levels in fecal samples over time. Group mean log<sub>10</sub> PEDV RNA levels (GSEM) were determined in fecal samples from PEDV-infected pigs (PEDV-CONTROL, SDPP-PEDV, EGG-PEDV) collected from day post inoculation (dpi) 3 through 28. The data were analyzed by one-way ANOVA method followed by Tukey's pairwise test using the JMP software version 10.0.2 (SAS Institute, Cary, North Carolina, USA). Different superscripts (A,B) indicate significant different group means on selected days (p,0.05).

Aside from the aspect of PEDV-contaminated plasma products, this study has an interesting evaluation of the efficacy of the commercial egg-derived PEDV globulin product. On this matter, the study concludes that "PEDV globulin addition did not significantly alter PEDV disease course or PEDV shedding after experimental challenge" as opposed to results from a Korean field study.