

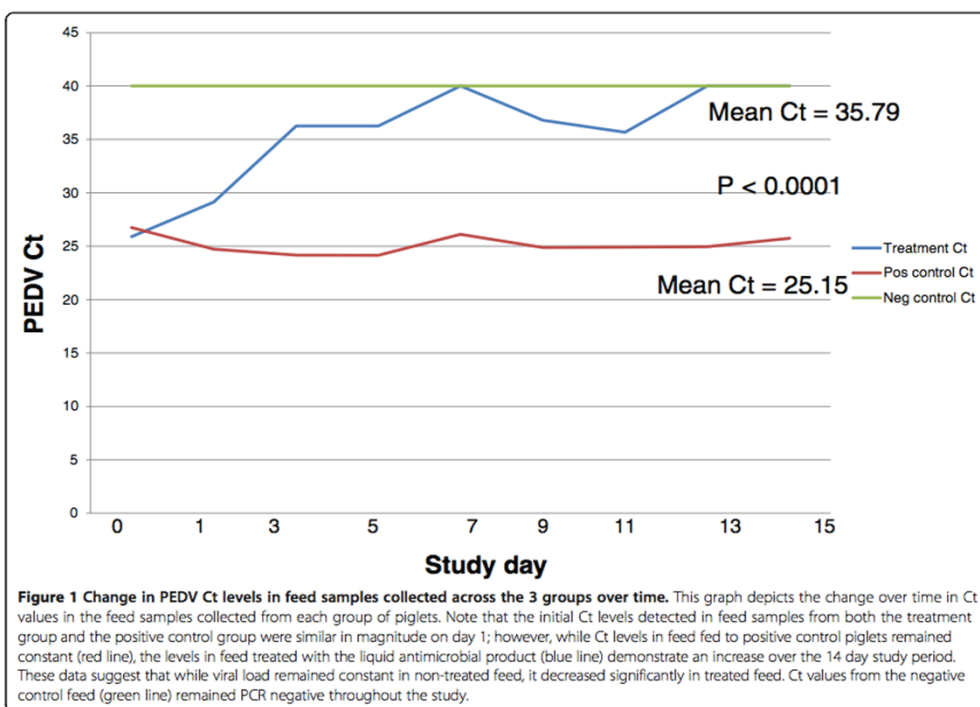
PEDV in the Literature

An evaluation of a liquid antimicrobial (Sal CURB) for reducing the risk of porcine epidemic diarrhea virus infection of naïve pigs during consumption of contaminated feed

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Background: Recently, contaminated feed was confirmed as a vehicle for PEDV infection of naïve piglets. This research provides *in vivo* data supporting the ability of a liquid antimicrobial product to reduce this risk.

Results: Sal CURB (Kemin Industries, Des Moines, IA, USA) is a FDA-approved liquid antimicrobial used to control *Salmonella* contamination in poultry and swine diets. To test its effect against PEDV, Sal CURB-treated feed was spiked with a stock isolate of PEDV (Ct = 25.22), which PEDV-naïve piglets were allowed to ingest via natural feeding behavior (*ad libitum*) for a 14-day period. For the purpose of a positive control, a separate group of piglets was allowed to ingest non-treated (Sal CURB-free) feed also spiked with stock PEDV (Ct = 25.22). A negative control group received PEDV-free feed. Clinical signs of PEDV infection (vomiting and diarrhea) and viral shedding in feces were observed in positive control group 2-3 days post-consumption of non-treated feed. In contrast, no evidence of infection was observed in pigs fed Sal CURB-treated feed or in the negative controls throughout the 14-day study period. In addition, the Sal CURB-treated feed samples had higher ($p < 0.0001$) mean PEDV Ct values than samples from the positive control group.



Conclusions: These data provide proof of concept that feed treated with Sal CURB can serve as a means to reduce the risk of PEDV infection through contaminated feed. Furthermore, the results from the positive control group provide additional proof of concept regarding the ability of contaminated feed to serve as a risk factor for PEDV infection of naïve piglets.

Editor's Note: Previous research by Dr. Sagar Goyal revealed that PEDV can survive at least one week in feed. Therefore storage of incoming feed will reduce risk to the farm and this paper suggests an additional approach to further reduce risk.