

Evidence of viral survival in representative volumes of feed and feed ingredients during long-distance commercial transport across the continental United States

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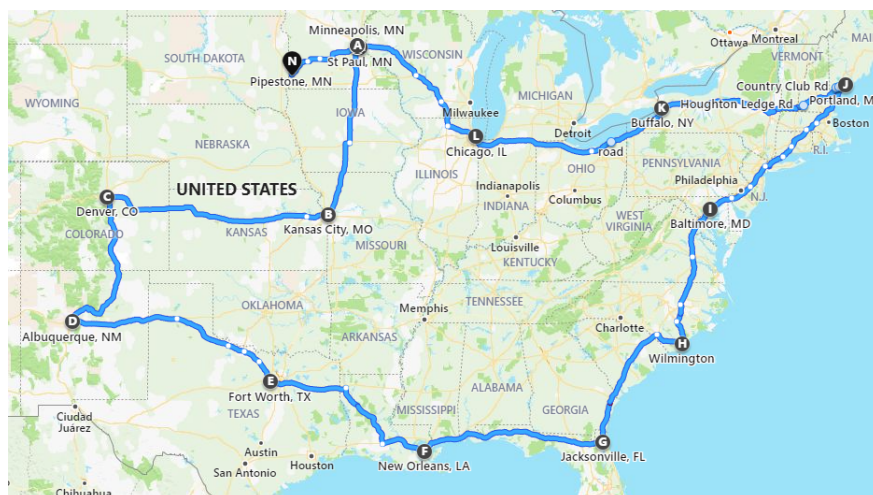
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Abstract

The hypothesis that feed ingredients could serve as vehicles for the transport and transmission of viral pathogens was first validated under laboratory conditions. To bridge the gap from the laboratory to the field, this current project tested whether three significant viruses of swine could survive in feed ingredients during long-distance commercial transport across the continental US. One-metric ton totes of soybean meal (organic and conventional) and complete feed were spiked with a 10 mL mixture of PRRSV 174, PEDV, and SVA and transported for 23 days in a commercial semi-trailer truck, crossing 29 states, and 10,183 km. Samples were tested for the presence of viral RNA by PCR, and for viable virus in soy-based samples by swine bioassay and in complete feed samples by natural feeding. Viable PRRSV, PEDV, and SVA were detected in both soy products and viable PEDV and SVA in complete feed. These results provide the first evidence that viral pathogens of pigs can survive in representative volumes of feed and feed ingredients during long-distance commercial transport across the continental US.

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