RESEARCH ABSTRACT

SWINE HEALTH

Title: Assessing the risk of African swine fever virus (ASFV) transmission in feed – NPB #17-057

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Scientific Abstract:

African swine fever virus (ASFV) is a contagious rapidly spreading transboundary animal disease and a significant threat to pork production throughout the world. Although plant-based feed has been identified as a potential route for virus introduction onto swine farms, little is known about the risks of ASFV transmission in feed. The objectives of this study were to determine the minimum infectious dose (MID) and median infectious dose (ID_{50}) for ASFV Georgia 2007 through oral exposure via natural drinking and feeding behaviors. The MID of ASFV in liquid was 10^0 $TCID_{50}$ compared to 10^4 $TCID_{50}$ in feed. The ID_{50} was $10^{1.0}$ $TCID_{50}$ for liquid and $10^{6.8}$ $TCID_{50}$ for feed. Taken together, this study demonstrates that ASFV Georgia can be easily transmitted orally, with higher doses required for infection in plant-based feed. These data provide important information that can be incorporated into the risk models for ASFV transmission.