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Descriptive analysis of prevalent winds in cases of suspected airborne transmission of PRRS virus between pig farms

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This project has been submitted for publication in a refereed journal and, therefore, for copyright reasons, only a brief summary of the work is presented here.

Summary

Eight cases of presumed airborne transmission of PRRSV between farms were investigated. All 8 herds were known to be negative for PRRS virus and became infected with no apparent source of virus. Geographic location, PRRS virus genomic sequence and general characteristics of farms involved in the cases were collected. Meteorological data for wind direction and speed was available electronically for all 8 cases. Wind moving in the direction (+/- 10°) of the recipient farm from the presumed source farm was cumulated over a 2 week period before the presumed date of infection. The percentage of PRRSV's genetic homology between presumed sources and recipient farms varied between 98.2 and 100 % (mean=99.4 %) and the geographic distance varied between 1.10 and 12.02 km (mean=4.00 km). A sufficient period of time of wind blowing from the presumed source to the recipient herd was detected at least one time for all 8 case herds. Therefore, airborne transmission cannot be ruled out in these cases of apparent PRRSV transmission between farms.