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The influence of circovirus and PMWS on nursery pig mortality in Manitoba

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Purpose:

The purposes of the study were to determine the association between nursery pig mortality and infectious diseases, management factors and circovirus.

Materials and Methods

The project was conducted as a case control study. Case herds were those which experienced nursery pig mortality of more than 3% or a single episode of high mortality over the past 18 months. Control herds were those with acceptable nursery pig mortality. The herds were placed into categories by the referring veterinarian.

Researchers visited 61 farms, collected production records, conducted a survey of management and disease, reviewed previous diagnostic laboratory submissions, and conducted complete post mortem evaluations of 3 poor doing pigs. A panel of PCR tests was conducted to evaluate the presence of PRRS, circovirus, *M. hyopneumonia* and swine influenza virus.

Results

The number of pigs weaned per week (280) and the length of time pigs stay in the nursery (7 weeks) did not differ by herd status but the average mortality rate in the case herds (4.4%) was higher than the mortality rate in the control herds (1.6%) ($P=0.00003$).

A higher proportion of case herds were positive for atrophic rhinitis, circovirus, enterotoxigenic Ecoli, K88 Ecoli causing sudden death in nursery pigs, and *M. hyopneumonia* (20, 71, 100, 50, 61 respectively) versus control herds (6, 46, 79, 22 respectively). Clinical signs of K88 Ecoli, *Staph hyicus*, swine influenza and rotavirus diarrhea were more common in

case herds than control herds.

Two of the case herds and none of the control herds believed that their pigs had experienced the post weaning multisystemic wasting syndrome. The diagnosis of PMWS was made by the producer due to clinical signs rather than by veterinary or laboratory diagnosis. None of the farms in the study believed that they currently were experiencing problems due to PMWS. The range of clinical signs of PMWS can be experienced by pigs due to poor management or infectious diseases.

Circovirus was identified by PCR testing in 71% of the case herds and 46% of the control herds. This may be due to the fact that case herds have a higher prevalence of the virus or that case herds tended to submit more samples to the diagnostic laboratory than control herds. Circovirus is widespread in Manitoba and in Ontario (Cottrell, 1999) and can be found in herds that are not experiencing clinical signs due to PMWS.

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