

Evaluation of PCV2 breeding herd stability using placental umbilical cord serum samples in Korea



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INTRODUCTION

The safety and efficacy of porcine circovirus type 2 (PCV2) vaccines are well recognized globally and PCV2 vaccination around weaning is essential to protect pigs from porcine circovirus disease (PCVD)¹. However, the occurrence and role of vertical transmission of PCV2 is not well understood. The purpose of this study was to evaluate the stability of sow herds for PCV2 using placental umbilical cord serum (PUCS) samples from 11 breeding herds.

MATERIALS AND METHODS

This cross-sectional research study was conducted in 11 breeding sites of one big integrated group in Korea. Each sow unit was sampled two times 30 day apart. 10 PUCS samples were randomly collected from each site and each sample consisted of a pool of blood squeezed from at least 4 umbilical cords. PUCS samples were tested by PCR for PCV2.

Table 1: Placenta umbilical cord serum sampling



RESULTS

4/11 sites were positive for PCV2 (Fig. 2). The prevalence of positive PCR samples varied within sites over the 2 periods. Site C and E showed positive PCR results at both time points. Among 11 sites, site E showed the highest percent positive.

Figure 2: PCV2 PCR results by site over time

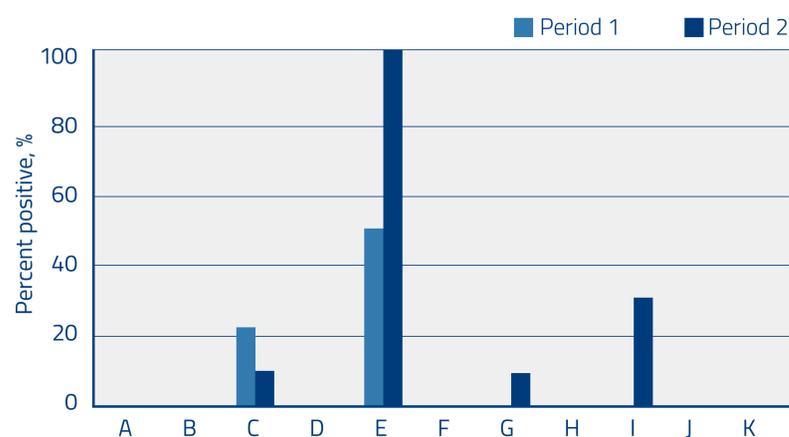


Table 1 shows the difference in the mean production parameters between the 11 breeding sites for the period of one year before the study. Reproductive performance parameters were not significantly different between PCR positive and negative sites. However the nursery mortality of PCR positive sites was higher than that of negative sites.

Table 1: Breeding herd performance by site

Site	Total Born	Live born	Still born %	Mummies, %	Conception rate, %	Nursery mortality
A	13.2	12.4	6.4%	1.9%	96.4	2.5%
B	13.2	12.2	7.3%	3.7%	95.2	3.8%
C	12.9	12.2	5.6%	1.8%	92.6	6.6%
D	12.5	11.9	4.6%	3.8%	92.7	4.1%
E	13.0	12.2	6.1%	4.4%	96.2	6.0%
F	13.0	12.0	7.3%	2.1%	95.4	3.7%
G	14.0	13.2	5.7%	1.0%	95.9	2.1%
H	13.0	12.4	4.6%	1.0%	96.3	2.9%
I	11.8	11.4	3.1%	2.8%	92.5	4.8%
J	13.4	12.6	6.5%	5.6%	97.9	1.1%
K	14.2	13.4	5.6%	4.5%	96.2	1.6%

DISCUSSION AND CONCLUSION

Some previous studies have shown that PUCS are a good sample to evaluate sow herd stability for PCV2². In this study, 4 out of 11 sow herds were tested using PUCS samples. Compared to a previous study from the USA, prevalence of positive PUCS samples is low³.

REFERENCES

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2. D Baumert et al., 2013 *Allen D. Leman Swine Conference* 205.
3. T Fangman 2014 *IPVS Mexico*, 79

