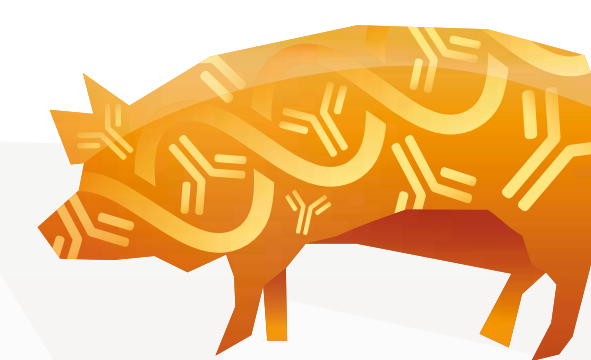


The Importance of Monitoring PCV2 virus and PCV2 Antibodies

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Introduction

PCV2 virus (PCV2) causes economic damage and is a risk factor in swine production. Vaccination coverage worldwide is >85%. Scientific literature reports differences in protection after vaccination. Subclinical PCVAD (PCVAD-SI) can occur in vaccinated herds. Maternally Derived Antibodies (MDA) are protective and the titer height varies among piglets. Uniform seroconversion after vaccination is a clear sign of successful vaccination. High MDA titers at vaccination can interfere with vaccination and seroconversion. Success of vaccination can be monitored by checking

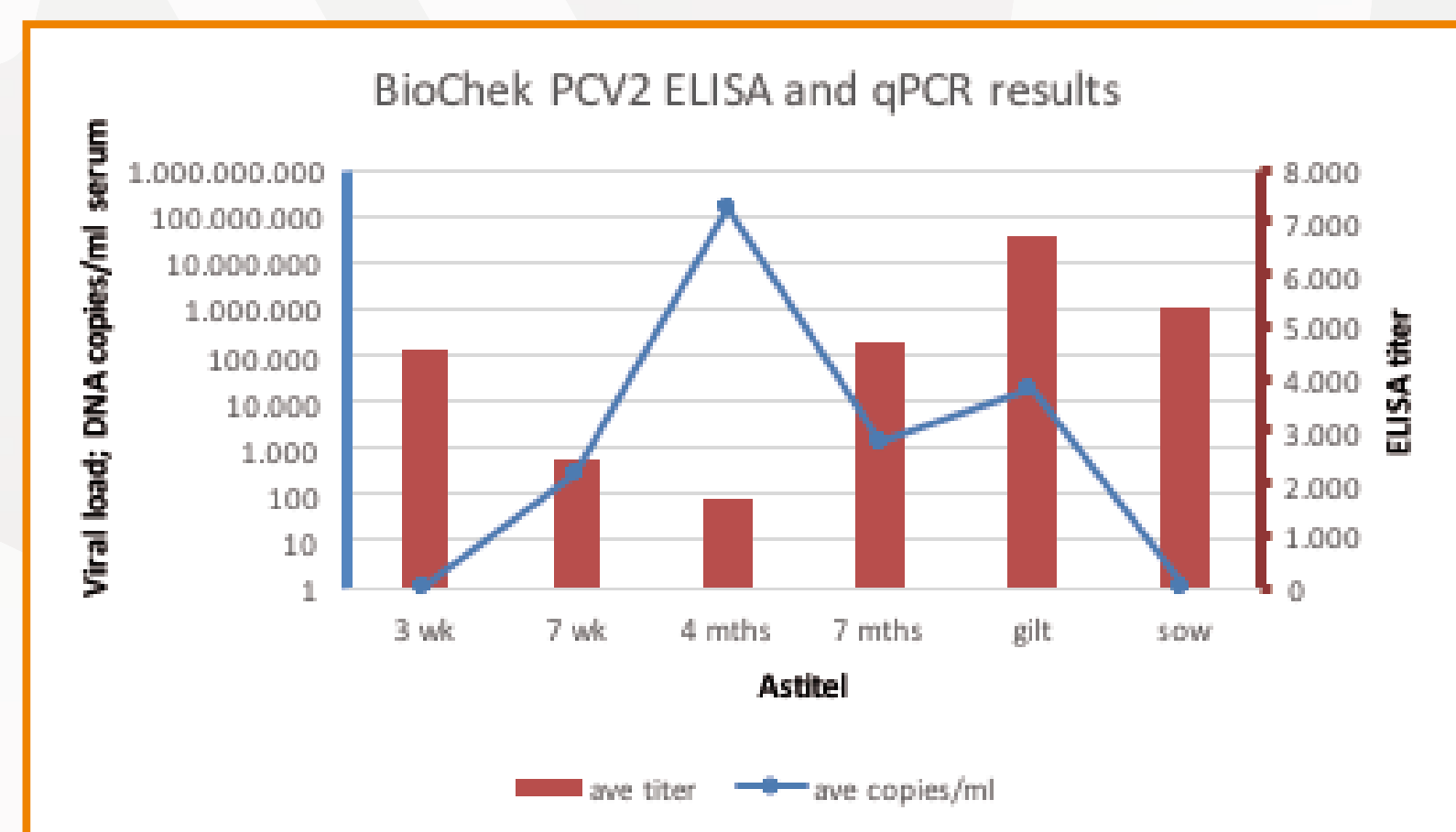
Materials and methods

Literature was screened for mode of action of PCV2, PCV2 induced immunity, the importance of sub-clinical infections, and differences in economic performance. Investigations by BioChek on PCV2 by ELISA and qPCR was included.

Results

Groups with higher seroconversion and a higher level of uniformity in ELISA titers showed a lower level of PCV2 (qPCR) viremia and also recorded a better economic performance. The optimal vaccination moment can be determined when MDA titers, seroconversion after vaccination and viral load are being monitored. Figure 1 shows an example of an unsuccessful vaccination at 3 weeks of age, followed by field virus infection at 4 months of age.

The BioChek PCV2 monitoring system reports both antibody titers and viral load, and includes the Coefficient of Variation (CV%). CV% indicates the level of uniformity within a batch. Lack of uniformity in serological protection is a factor leading to the biological variation often observed in PCVAD. Table 1 shows the %CV associated with the age groups in figure 1.



Age	# Samples	Mean Titer	%CV
3 wk	12	4534	66
7 wk	11	2465	75
4 mth	6	1667	173
7 mth	6	4707	55
Gilt	5	6743	8
Sow	5	5338	21

Conclusion

PCVAD-SI is of economic importance. PCVAD-SI can be detected by generating information on PCV2 antibody titers and PCV2 viral load. BioChek PCV2 ELISA and qPCR test kits provide information on timing of vaccination, success of vaccination and subsequent effect on viral load. Substantial financial gains are reported by using this system.