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TITLE

ANTIBODY RESPONSES TO INFLUENZA VIRUS TYPE A (IVA) FROM WEANING UP TO MARKETING IN PIGS IN ONTARIO, CANADA

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CONTENT

Background and objectives

Swine influenza caused by type A influenza virus (IVA) is one of the important swine respiratory problems resulting in decreased herd health, poorer quality meat products, and producer profits. Understanding the trends in seropositivity of the pathogen at different stages of production may help in developing control strategies to minimize the presence and impact of disease on commercial swine farms. The objective of this study was to investigate the antibody response against IVA in pigs from weaning up to end of finisher stage.

Material and methods

Fourteen groups of 54-60 pigs were selected from eight farrowing farms in Ontario, Canada. A summer and a winter cohort were tested on each farm. Blood samples were collected at weaning and at the end of nursery, grower, and finisher stages. Serum samples were analyzed by ELISA (SWINE INFLUENZA AB, IDEXX Laboratories) for the presence of antibodies against IVA.

Results

Overall, 38.5% of serum samples tested positive for IVA. In the winter cohort, 57.3% of pigs tested positive for SIV while 10.0% of pigs tested positive for IVA in the summer cohort. Seropositivity to IVA was detected in 58.3, 19.5, 30.9, and 47.2% pigs at weaning, at end of nursery, grower, and finisher stage, respectively.

Discussion and conclusion

These findings indicate a high level of IVA maternal antibodies present in pigs at weaning and a decline towards the end of the nursery stage. The increase of antibodies towards the end of the finisher stage indicates exposure to the virus during production. Monitoring the swine farms by IVA universal ELISA kit may be a practical and less expensive method for screening swine farms for presence of virus, and further testing for specific SIV subtypes can then be used in order to identify the IVA subtypes.