

**TITLE**

**PREVALENCE AND SEASONAL VARIATION OF INFLUENZA A VIRUS - SWINE CIRCULATION IN NURSERY PIGS OVER A 5-YEAR PERIOD IN BELGIUM AND THE NETHERLANDS**

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**CONTENT**

**Background & Objectives** – Influenza A Virus - Swine (IAV-S) is present in pigs worldwide. In contrast to the general perception that IAV-S is predominantly a disease in finishing pigs, recent research has observed continuous circulation of IAV-S among piglets during the post-weaning period, especially when maternal immunity is fading from 4-5 weeks of age onwards. The objective of this study was to determine prevalence of IAV-S through tracheo-bronchial swab (TBS) sampling in piglets during early and later nursery period and to analyze differences across seasons.

**Material & methods** – A total of 878 Belgian and Dutch pig herds, showing respiratory disease during the post-weaning period, were included in this study, which was conducted from January 2011 to December 2015. In every herd, TBS were collected of at least 15 coughing piglets in each of the age groups during the nursery period (at 3-5 and 6-11 weeks of age). TBS were subsequently tested for the presence of IAV-S using PCR (IVD GmbH, Germany). PCR results were reported as negative or positive. Results were categorized and analyzed according to the season of sampling.

**Results** – The average prevalence of IAV-S was 21.9% through the entire 5-year study period. In 3-5 weeks of age, prevalence was at 28.4%, whereas in 6-11 weeks of age, it was slightly lower (20.5%). Prevalence was significantly higher in spring (33.8%) and autumn (33.9%) than in other seasons in piglets of 6-11 weeks of age (24.8%).

**Discussion & Conclusion** – A significant seasonal variation in IAV-S prevalence was observed through the 5-year study period under the local geographical conditions. Overall prevalence of IAV-S within the post-weaned piglets sampled was 21.9%. Therefore, we can conclude that in herds suffering respiratory problems during the post-weaning period, IAV-S may be associated with these problems in Belgium and The Netherlands.