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VVD – Virology and Viral Diseases

DO HERDS CLOSE TO MAIN ROADS HAVE HIGHER PRRS PREVALENCE?M. Fertner¹, J. Snitgaard Pelck²¹SEGES Innovation P/S, Datamanagement, Axeltorv 3, DK-1609 Copenhagen V, Denmark²SEGES Innovation P/S, Datamanagement, Agro Food Park 15, DK-8200 Aarhus, Denmark**Background and Objectives**

Along with the Danish PRRS reduction program launched in 2022, focus on potential routes of PRRS virus transmission has increased. A concern has arisen, whether passing trucks transporting live pigs, constitute a risk to pig herds located in near proximity of transit routes. If passing trucks would constitute a risk, we would expect a higher prevalence of PRRS among herds located in near proximity of roads. The objective of the study was to compare the prevalence of declared PRRS-seropositive herds located in the proximity of large roads, compared to herds located further away.

Material and Methods

A register-based cross-sectional study was conducted, based on data from the Central Husbandry Register (herd location) and the Specific Pathogen Free Register (PRRS status). PRRS status (seronegative/seropositive) is based on clinical suspicion and monthly (multiplier/breeding herds) or annual (production herds) antibody test. In addition, information on location of highways, primary and secondary roads were downloaded from OpenStreetMap. All data was collected April 2023. Herds were defined as either “herd-close-to-road” (< 500 m distance to road) or “remaining-herd” (> 500 m). A likelihood ratio-test with binomial outcome and a 5% significance level, was used to test the null-hypothesis of equal PRRS-prevalence between herds-close-to-road and remaining-herds. The analysis was performed on four study populations.

Results

For each of the four study populations “Denmark” (N=4,023), “Southern Jutland” (N=497), “20 km radius around slaughterhouses” (N=975) and “collection centers” (N=519), declared PRRS-seropositive herd status was around 38%-46% (herds-close-to-road) and 36%-38% (remaining-herds). With p-values ranging from 0.12-0.40, we could not reject the null-hypothesis of equal prevalence of PRRS for any of the four study populations.

Discussion and Conclusion

No significant difference in prevalence of PRRS was found between herds-close-to-road and remaining-herds. The study was conducted for all herds enrolled in the Danish PRRS-reduction strategy, and repeated for high-risk areas, namely areas with a high rate of trucks with live pigs driving transit for either export (Southern Jutland and collection centers) or slaughter (area around slaughterhouses). Identical results for each of the four sub-analyses indicate no association between herd location close to road and declared PRRS serological status.