

DETECTION AND PRODUCTIVE IMPACT OF PRRS AND INFLUENZA VIRUSES CO-INFECTIONS IN SPANISH NURSERY UNITS

A. García Flores¹, E. Ramells Cardona¹, R. Marin¹, N. Rodrigo Cacharron¹, L. De Lucas², L. Nodar², A. Melendez³, J.Camarasa³, T. Nunes²

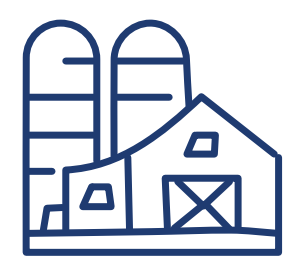
¹Inga Food S.A., Spain ²HIPRA HQ, Amer (Girona), Spain ³HIPRA Spain

*Corresponding author: tiago.nunes@hipra.com

BACKGROUND & OBJECTIVES

Coinfections of Swine Influenza virus and other pathogens, such as the PRRS virus, have been on the increase in the last decade¹. These co-infections can exacerbate the clinical and productive impact of each pathogen. This study aimed to assess the prevalence of PRRSV and SIV co-infections in Spanish nursery units and their correlation with nursery mortality rates.

MATERIAL & METHODS



- ✓ **Location and period:** Spain, 2024
- ✓ **Study population:** 70 post-weaning (nursery) units
- ✓ **Sampling strategy:** Oral fluid samples collected at approximately 10 weeks of age, over three consecutive months
- ✓ **Diagnostics:** RT-PCR testing for PRRSV and SIV
- ✓ **Productivity data:** In 51 of the 70 units, nursery phase mortality (%) was analyzed in relation to infection status

RESULTS

31.4% of the nurseries (N=22) had coinfection with PRRS and influenza. 46% (N=32) were positive for the PRRS virus whilst 60% (N=42) were positive for influenza. Fig 1.

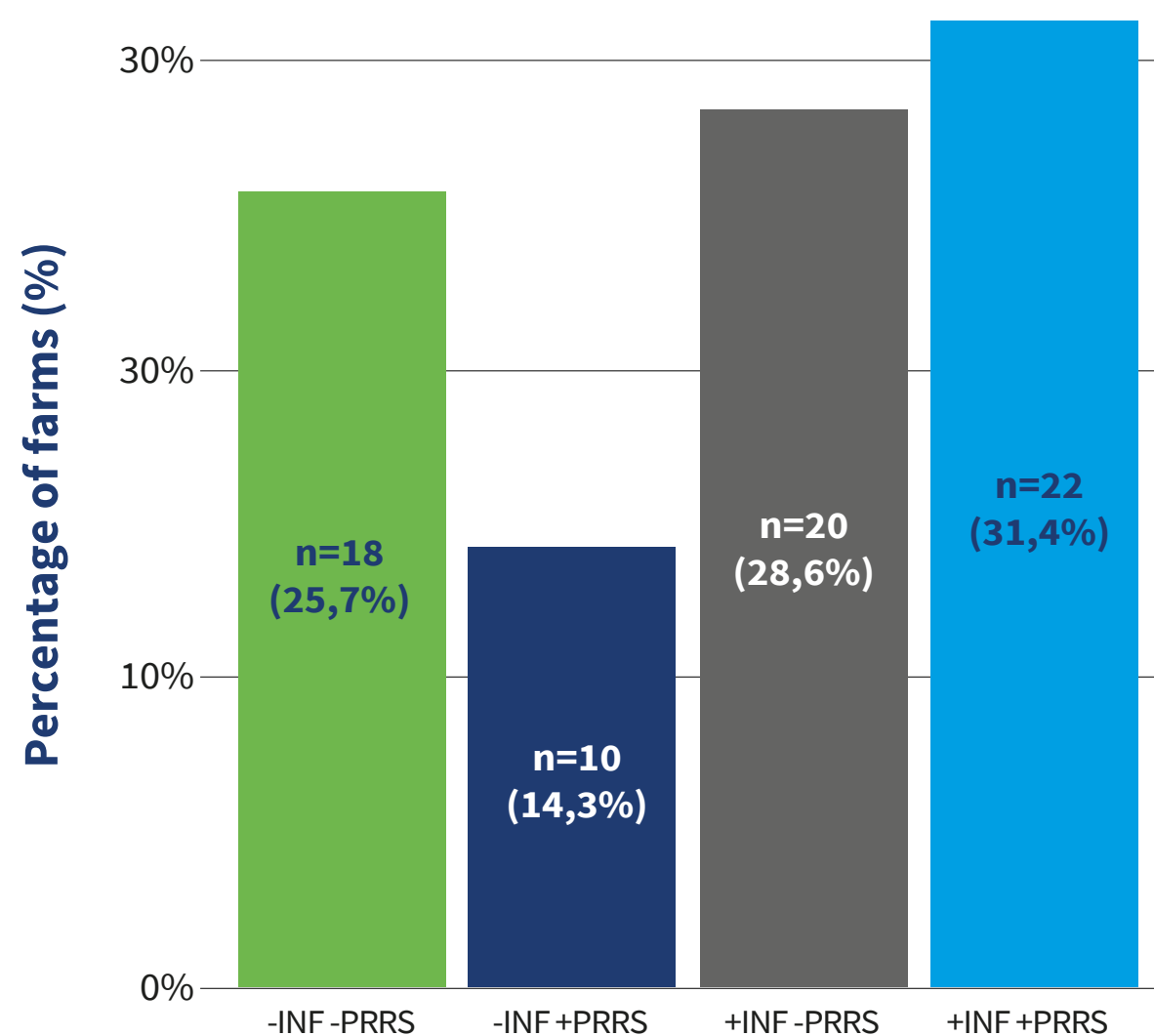


Fig 1. Nursery infection status by RT-PCR (PRRSV, SIV, or both)

By analysing the mono-infection scenarios, 28.6% of the nurseries for SIV and 14.3% for PRRS had >9% of mortality. Nurseries with high mortality due to SIV showed the highest viral loads (Cts below 25 in 69% of the samples analysed). The association between high mortality and viral load was less pronounced in PRRS, where 88% of samples from nurseries with mortality >9% had Ct values above 25, indicating comparatively lower viral loads.

The productive impact of coinfections showed that 81% of the nurseries with > 9% mortality were positive for IF and PRRS. Fig 2

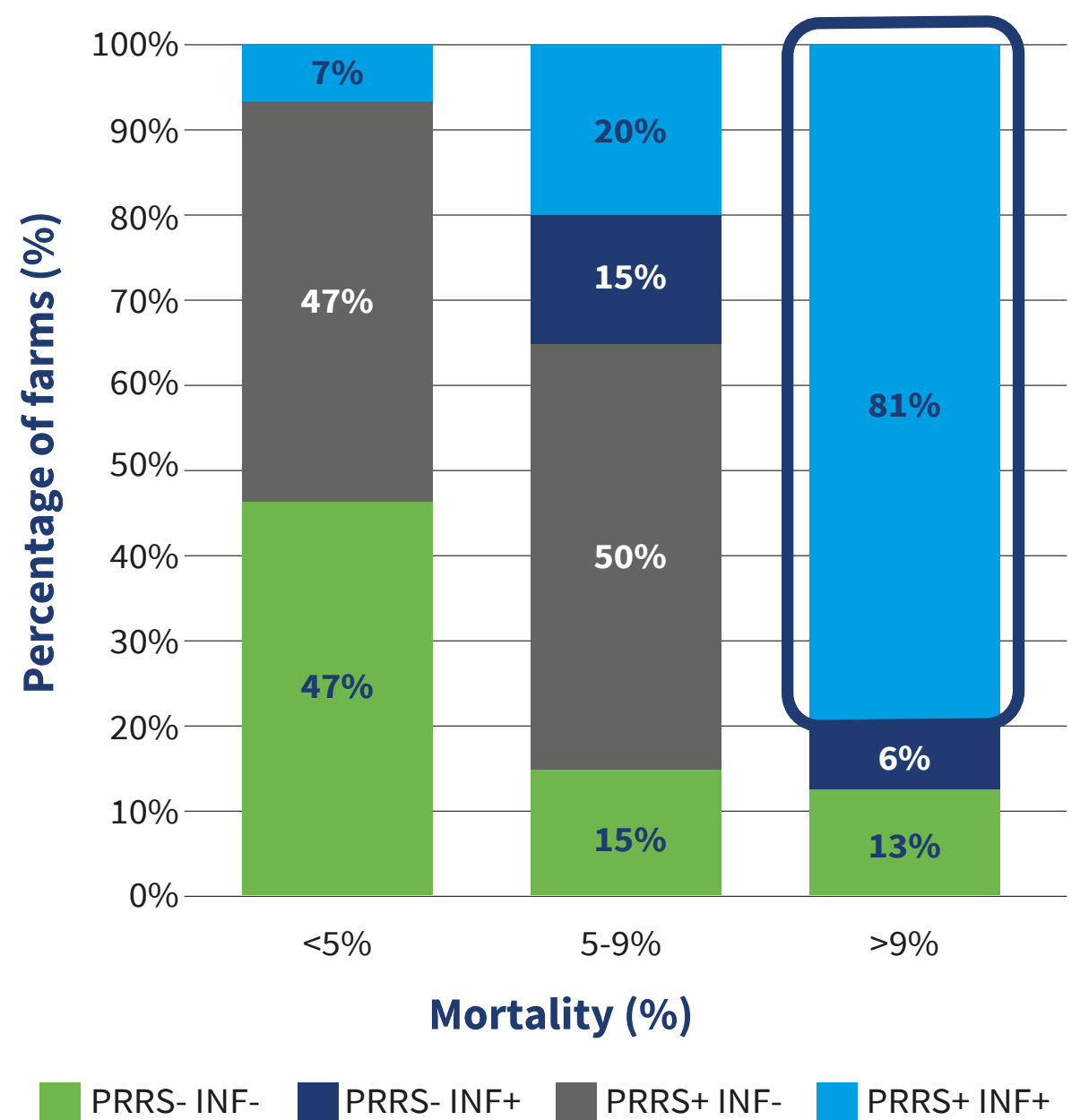


Fig 1. Nursery mortality categorized by PRRSV and SIV PCR status.

CONCLUSIONS

Nearly one-third of the nursery units were co-infected with PRRSV and SIV. These co-infections were strongly associated with increased mortality, particularly when influenza viral load is high, emphasizing the need for integrated control strategies targeting both pathogens to minimize their economic and health impacts.

REFERENCES

1. Corzo et al. *Confirmed porcine reproductive and respiratory syndrome virus (PRRSV) tissue diagnosis and pathogen interactions over time and age category*. NA PRRS Symposium 2022 Proceedings, pg 40.