FIELD EVALUATION OF AN INACTIVATED INTRANASAL AUTOGENOUS PRRS AND SIV VACCINE TARGETING EARLY MUCOSAL IMMUNITY

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Background and Objectives

Since PRRS was identified in 1989[6], numerous vaccination programs have been introduced to manage the risk against PRRS. Due to increasing genetic diversity [1,3,4,7,8,9] and, ongoing drift [5], partial protection by heterologous vaccines could be achieved [7]. Following human influenza pandemic in 1918, the 1918-like-SIV became endemic in pigs worldwide[10], more recently, H1N2, pandemic H1N1 2009 (pdmH1N109) and avian-like H1N1 and their reassortants are frequently isolated.

Both PRRS and SIV are correlated with subsequential secondary bacterial respiratory infections later in life, as demonstrated with farrow-to-finish pig herds [2].

When it comes to immunogenic effect it is well accepted that, for a solid protective immune response, the vaccine-strain needs to be homologous to the challenge strain. In the present study it is hypothesized that a tailor-made homologous vaccine can confer reliable immunity against both respiratory challenges. These findings suggest that the tested autogenous intranasal PRRS/SIV combination-vaccine can be an effective tool, targeting mucosal immunity and thus improving the health status in those immunized pigs.

Material and Methods

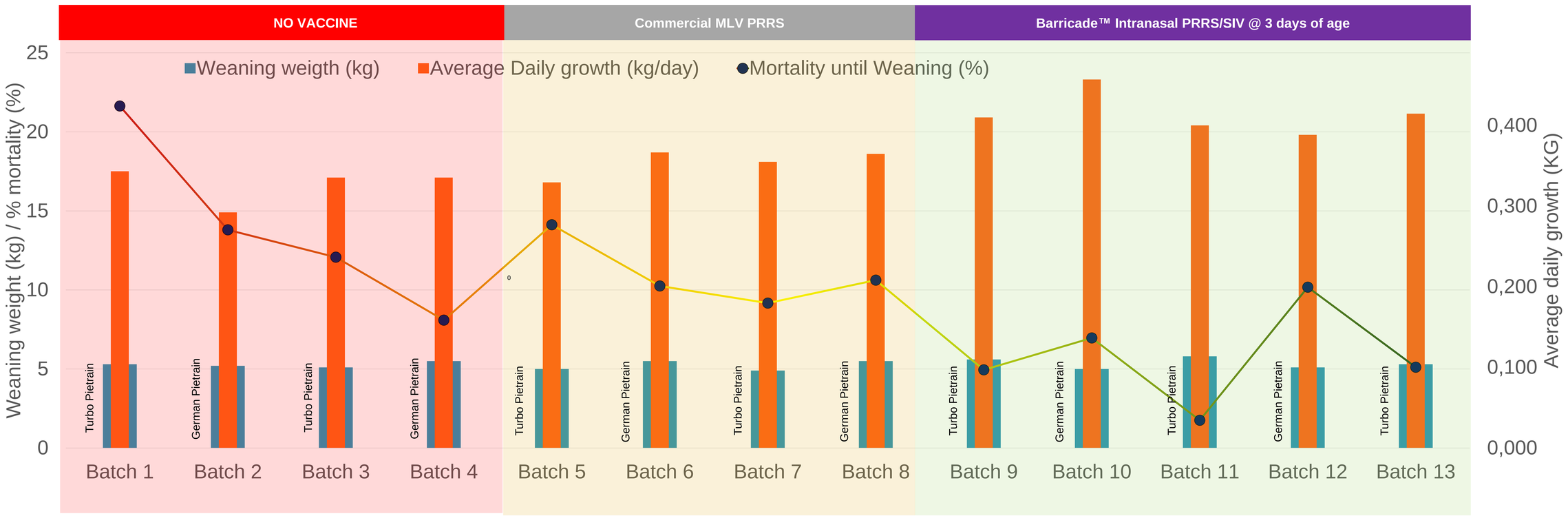
On a Belgian sow farm (± 500 sows), PRRS and SIV strains were isolated and identified.
The vaccine was manufactured according to 3 major success factors:

1. Isolated PRRS and SIV strains were grown on dedicated cell lines and inactivated in consultation with the prescribing veterinarian.
2. Formulation with SATx-particles, which carries both adjuvant and antigen, following standardized production and quality protocols.
3. Intranasal application at 3 days of age, targeting mucosal immunity and according to established vet protocol.

The vaccination program started in July 2022 and historical comparison was made for 3 distinct periods:

- Period-1: No vaccination
- Period-2: a commercial MLV PRRS vaccine
- Period-3: autogenous homologous inactivated intranasal PRRS and Swine Influenza vaccine (Barricade™ PRRS/SIV).

Results[11]



Discussion and Conclusion

The approach with an inactivated/homologous/intranasal autogenous PRRS and SIV vaccine provides the practitioner with an effective additional tool to manage the two main viral respiratory pathogens in pigs PRRS/SIV, this is particularly important when commercial vaccines offer variable protection based on heterology to the field strains challenges at farm level.

This tailored approach showed to be very effective under field conditions.

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