

# Use of Ingelvac<sup>®</sup> PRRS MLV to stabilize a farrow-to-finish herd dually infected with both NA and EU PRRS field strains

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## Introduction

Porcine reproductive and respiratory syndrome (PRRS) costs the swine industry approximately \$560 million annually.<sup>1</sup> Risk of re-infection is high in pig dense areas regardless of traditional external biosecurity and therefore the concept of area regional control (ARC) has come to the forefront. In early 2010 an ARC project was started in Northern Illinois. Within this defined region, there was a 1200-sow farrow-to-finish operation infected with both PRRS-NA and PRRS-EU strains. Along with the dual strain infection, this case was further complicated due to production flow: farrow-to-finish and internal multiplication. A comprehensive control strategy including flow modification, increased biosecurity, and the use of modified live vaccine (MLV) in order to produce an immune population was implemented in order to first control and then eliminate the virus from the farm.

## Materials and methods

This farm became infected with a 1-18-4 NA PRRS isolate in 03-2008 and with an EU PRRS isolate in 08-2009. Within that year and a half there were no efforts to eliminate PRRSV, only to control it. In January 2010 a herd plan was implemented with the ultimate goal of eliminating both endemic PRRS virus isolates. New internal biosecurity measures were implemented including physically separating the finisher from the sow herd (06-2010) and using McRebel techniques with stricter modifications (05-2010). To prevent lateral introduction of new strains while controlling the endemic strains, external biosecurity was also enhanced at this farm as well as in the surrounding area. Flow modifications began in 06-2010 which involved a 200-day herd closure from internally multiplied gilts, pigs weaned off-site for 5 months (bubble depopulation) starting in 05-2010, and a 2 week finisher depopulation in 09-2010. The entire herd was mass vaccinated with a full dose of Ingelvac<sup>®</sup> PRRS

MLV on June 14, 2010 (Day 0) and July 14, 2010 (Day 29), including all pigs present on the site except for suckling pigs and finisher pigs within 3 weeks of marketing.

Post-vaccination herd stability was measured by monitoring serum samples collected on weaned pigs (30 samples pooled in groups of 5) every 2 weeks starting August 26, 2010 (Day 72).

## Results and discussion

Time to negative period (TTNP) was determined to be 72 days. The comprehensive strategy including vaccination, internal biosecurity, and flow modification was successful in the production of PRRS negative weaned pigs. The herd remains stable for 153 days as of November 15, 2010. Currently replacement gilts are being weaned off-site and are being tested weekly with rope PCR's, all of which have been negative. If these gilts test ELISA negative they are scheduled to be brought back to the on-site finisher. It is apparent that this strategy has overcome the challenges of this specific type of production flow. Other farms in this ARC project in the immediate vicinity are also actively involved in controlling PRRS in their farms.

The consequences of a PRRS infection for this farm go beyond the standard implications. This system estimates that it costs the system \$5 per pig that is PRRS positive compared to a PRRS negative pig. Additionally, PRRS cost this farm the ability to sell select gilts. Once they are confident that the gilts are PRRS negative, gilts will be brought back into the herd.

## References

1. Neumann EJ, Kliebenstein JB, Johnson CD, Mabry JW, Bush EJ, Seitzinger AH, Green AL, Zimmerman JJ. Assessment of the economic impact of porcine reproductive and respiratory syndrome on swine production in the United States. *J Am Vet Med Assoc* 2005 Aug 1;227(3):385-92.



