# Efficacy of Ingelvac® PRRS MLV in Korean swine farm with PRRSV co-infection (EU&NA Types)

SW Lee[1], BS Kang, SY Kang[2]
[1] Boehringer Ingelheim Vetmedica Korea Ltd, [2] Virology Laboratory, Veterinary medicine, Chungbuk National University, Korea

## INTRODUCTION

Porcine reproductive and respiratory syndrome virus (PRRSV) causes respiratory disease in nursery and grow-finisher pigs and reproductive failure in sows and boars[1]. PRRSV-infected pigs usually suffer from poor growth performance and are highly susceptible to co- or secondary bacterial and other viral infections[2].

PRRSV was first isolated in Korea in 1994 and all PRRSV isolates corresponded to genotype 2 (PRRSV-2) until 2000, genotype 1 (PRRSV-1) has recently emerged in Korea[3].

In this study, we evaluated the efficacy of Ingelvac® PRRS MLV piglet vaccination in a Korean swine farm that co-infected with PRRSV-1 and PRRSV-2.

## MATERIALS AND METHODS

This study was conducted in a commercial 1,700 sows, farrow to finisher farm. In 2016, this farm has experienced a negative impact in productivity due to co- infection with PRRSV-1 and PRRSV-2. We decided to execute a control program for the main pathogens involved trough piglet vaccination with Ingelvac® PRRS MLV.

In December 2016, this farm implemented a systematic breeding herd mass vaccination with Ingelvac® PRRS MLV (2ml) two times 4 weeks apart followed by quarterly mass vaccination (every 3 months). At the same time, piglet vaccination was performed with Ingelvac® PRRS MLV (2ml) at 3 weeks of age.

Before/After vaccination, blood samples were taken for examination by ELISA(IDEXX PRRS 3X) and RT-PCR to determine the presence of PRRS antibody and antigen. Also the performance data were analysed before and after vaccination period.

## RESULTS

Prior to vaccination, both PRRSV-1 and PRRSV-2 was detected in piglets (Table1). And there was rapid increase in PRRSV antibody titer after weaning (Figure1).

After piglet vaccination PRRSV-2 was detected only late nursery andthe variability of SP values was reduced, suggesting a better stabilization process (Table1, Figure 1). Performance was improved after vaccination (Figure 2). Average growth rate was 8.2 % higher in the vaccine intervention period (86.7 % vs 94.9 %).

**Table 1. PRRSV antigen detected.**

| | Dec-2016 | | Feb-2017 | | Jul-2017 | |
|---|---|---|---|---|---|---|
| | PRRSV -1 | PRRSV -2 | PRRSV -1 | PRRSV -2 | PRRSV -1 | PRRSV -2 |
| 40day | (+) | (-) | (-) | (-) | (-) | (-) |
| 70day | (-) | (+) | (+) | (+) | (-) | (+) |
| 100day | (-) | (+) | (-) | (-) | (-) | (-) |
| 130day | (-) | (-) | (-) | (-) | (-) | (-) |

**Figure 1. PRRS antibody titer**

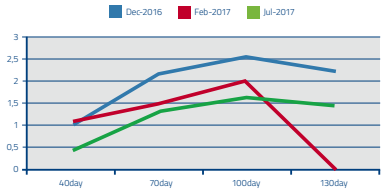
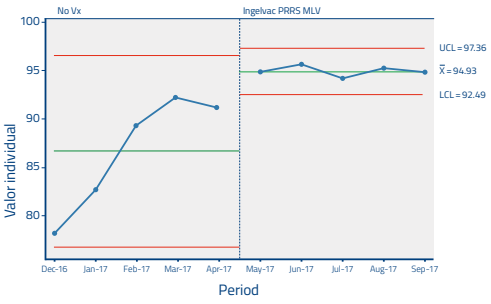



**Figure 2. SPC Chart of Growth rate after weaning**




## CONCLUSIONS

According to the results of this report, it can be concluded that the implementation of a systematic vaccination program with Ingelvac® PRRS MLV in piglets and quarterly mass vaccination of the breeding herd with Ingelvac®PRRS MLV was successful controlling PRRSV co-infection( genotype 1 & 2) resulting in significantly reduction of wean to finish mortality.
Considering these results, we propose that this vaccination program can be implemented in other farms with similar PRRSV problems.

## REFERENCES

1. Zimmerman, J., et al. (2006).Disease of swine. p. 387-417
2. Lunney JK et al. Virus Res. 2010;154:1-6.
3. Kiwon Han., et al. (2011). Clinical and Vaccine Immunology. P. 1600-1607