Allen D. Leman Swine Conference

UNIVERSITY OF MINNESOTA
College of Veterinary Medicine
Driven to Discover℠

Volume 39
2012

Published by: Veterinary Continuing Education

Sponsors
We thank the following sponsors:

Platinum
Bayer Animal Health
Pfizer Animal Health

Gold
Novartis Animal Health

Silver
Boehringer Ingelheim Vetmedica, Inc.
National Pork Board
Newport Laboratories

Bronze
Merck Animal Health

Copper
AgStar Financial Services
Elanco Animal Health
GlobalVetLINK
IDEXX
Novus International, Inc.
PIC USA
USDA PRRS CAP

University of Minnesota Institutional Partners
College of Veterinary Medicine
University of Minnesota Extension
College of Food, Agriculture and Natural Resources Sciences

GROWTH PERFORMANCE IMPROVEMENT AND MORTALITY REDUCTIONS DERIVED FROM A PRRS LARGE-SCALE CONTROL PROJECT IN THE US

Jose Angulo[1], John Kolb, Reid Philips[1], Jean Paul Cano[1]
[1]*Boehringer Ingelheim Vetmedica, Inc., St Joseph, Missouri USA*

Introduction

PRRSv has demonstrated to have an economical impact per pig up to $ 28.3 U.S dollars in finisher phase[1]. Modified-live virus vaccine represents a viable option to minimize the negative impact of PRRS in growing pigs [2,3]. The objective of this project was to determine if strategic use of Ingelvac® PRRS MLV could improve growing pig performance and reduce mortality compared to the previous 24 months of production data in a large-scale pig production system.

Materials and Methods

The project was performed in a 70,000 sow multisite production system. Breeding herds, nurseries and finishers were endemically infected with PRRSv type 1 (EU) and type 2 (NA). The primary interventions were herd closure (130 days) and systematic breeding herd mass vaccination with Ingelvac® PRRS MLV (2 ml), followed by quarterly sow mass vaccination, and ongoing pig Ingelvac PRRS MLV vaccination (2 ml) at weaning. Project duration was 15 months. In growing pigs, system-wide average daily gain (ADG) and mortality percentage were compared in a before-after analysis, running 2-sample t-test for ADG and 2-sample proportion test for % mortality (MINITAB 16.1). In the nursery phase, a total of 703 closeout groups(3,656,862 pigs) were included in the before period, and 328 closeout groups (1,463,539 pigs) were included in the after period. In the finisher phase, 489 closeout groups(2,659,631 pigs) were included in the before period and 188 closeout groups(1,006,072 pigs) were included in the after period. Monthly diagnostic monitoring in piglets at each breeding herd as well as nursery and finisher pigs (hospital pens) was implemented to assess PRRSv circulation dynamics and system-wide wild type (WT) presences (using ORF-5 sequencing) proportion during the project.

Results

Before and after vaccination results are shown in Table 1.

Table 1. Analysis of system-wide closeout gain and mortality before and after vaccination

	Vaccination	
Parameter	**Before**	**After**
Nursery		
ADG, lbs	0.905±0.12[a]	0.975±0.07[b]
Mortality, %	3.19±0.008[a]	2.45±0.008[b]
Finisher		
ADG, lbs	1.704±0.01[a]	1.825±0.06[b]
Mortality, %	5.56±0.009[a]	3.65±0.003[b]
System-wide WT-PRRS virus	100%[a]	49.6%[b]

Rows with different superscripts differ at P<0.01

Conclusions and Discussion

This large scale PRRS control project was successfully implemented for 15 months. A significant increase in ADG (P<0.01) and significant decrease in mortality (P<0.01) was detected in both nursery and finisher pigs when compared against the previous 24 months closeouts. In addition, a reduction of PRRS wild type virus proportion in the whole system was observed. PRRS MLV pig vaccination and modified herd closure were the primary tools utilized to achieve an improvement in ADG and reductions in mortality even in the presence of both PRRSv type 1 and type 2 in the system.

References

1. Neumann E. et al. 2005. *JAVMA* 227:385-392
2. Spronk G. et al. 2009. *Proc Leman Swine Conf*
3. Philips R. et al. 2006. *Proc IPVS* O.46-06