Routine production of PRRS virus negative weaned piglets from Ingelvac® PRRS MLV mass vaccinated, field virus positive sow herds.

J. Kolb[1], A. Oropeza[2], G. Cline[2], R. Philips[2]
[1]Boehringer Ingelheim International Trading (Shanghai) Co, Shanghai, PRC;
[2]Boehringer Ingelheim Vetmedica, Inc., MO, USA

INTRODUCTION

Production of negative piglets from Porcine Reproductive and Respiratory Syndrome virus positive herds is the definition of sow herd stability. Using modified live virus vaccines in a population approach will effectively return herds to baseline production. However, some doubts exist about the repeatability of negative piglet production from sow herds using live virus vaccines in a mass vaccination process that includes both lactating and late gestation sows. This paper demonstrates a low rate of vaccine virus positive weaned piglets from four large scale, long term PRRS control projects using mass vaccination in the breeding herd.

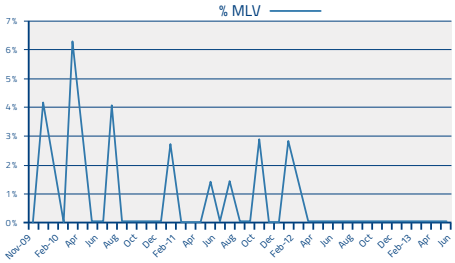
MATERIALS AND METHODS

A total of 52 sow farms, containing approximately 150,000 sows, were enrolled in several long term PRRS control projects involving an initial herd closure combined with mass vaccination of breeding herds with Ingelvac PRRS MLV, followed by quarterly mass vaccination to maintain sow herd stability. Piglets from these same sow farms were also vaccinated with Ingelvac PRRS MLV immediately prior to weaning (Ready to Wean, or RTW); piglets were sampled to assess breeding herd stability testing serum by PCR, for the presence of PRRS virus. Samples were taken from piglets believed to be non-vaccinated.

A minimum of 20 serum samples were collected monthly from RTW piglets from each far, then pooled 5 :1 for rt PCR to detect Open Reading Frame 5 (ORF5) of PRRS virus. Positive samples were then sequenced at Iowa State University to differentiate vaccine virus from field virus positive piglets.

RESULTS

A total of 30,520 sera were collected and pooled into 6105 PCR tests. Modified live vaccine virus was detected in 75 pools, a rate of 1.2%. Virus was most often detected during the load/close/homogenize phase. There was no significant relationship to mass vaccination events.



CONCLUSIONS

Vaccine virus may cross the placenta of naïve late gestation sows. However, in these farms, the majority of sows were previously exposed to field virus. The positive piglets may have been infected by vertical (in utero) or horizontal (colostrum, nasal shedding or physical exposure) methods of transmission. Sampling of RTW piglets did not allow differentiation of these routes of exposure.

The low rate of vaccine virus transmission (1.2%) by any route demonstrated the ability of mass vaccination to provide uniform herd immunity and prevent sow to piglet transmission of vaccine virus. Mass vaccination should be considered as a tool to assist in the production of PRRS virus negative weaned pigs.