

Serological Testing - Is it the Key for Targeted Medication (Farm Two)

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Background

Antibiotic resistance has become an important issue in the last few years and some of the controversy has centred around the routine use of antibiotics in food-producing animals. Serological testing can help us to understand the spread of diseases through the nursery barn. This will enable us to target use vaccinations rather than medication to reduce disease.

Objectives

- To map the spread of *Mycoplasma hyopneumoniae*, Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) and Swine Influenza Virus (SIV) in a nursery barn using serial blood testing

Results

In total, 21 sows and 5 pigs from each of their litters were bled at one week of age and then alternate weeks through the nursery phase. We measured the percent of pigs that had antibodies against PRRSV, mycoplasma and SIV to understand the loss of passive immunity and then to plot the spread of diseases through the barn.

Farm Two

SIV All sows on farm two were positive for SIV. Most of the piglets were positive during the first week of life. SIV did not cause respiratory disease in these nursery pigs. Colostral immunity for SIV lasted up to 9 weeks in these pigs so many pigs still have protection during the nursery phase of life.

PRRS: More than half (13/21) of the sows were positive for PRRS with SP ratios between 0.4 and 2.4. More pigs were positive for PRRS at 18 days of life (86%) than at any other time. This represented some pigs with declining maternal immunity and other pigs with rising active antibody production. This disease began spreading in the farrowing room. The colostral immunity lasted only 30 to 40 days. The spread of PRRS in the nursery was slow, so that only 21% were positive at 11 weeks of age.

Mycoplasma All 21 sows were positive for mycoplasma. Only two pigs with poor colostrum intake were negative at 1 and 3 weeks of age. Pigs began losing their colostral immunity at 5 weeks of age. At 11 weeks only 42% of the pigs were positive. None of the pigs had rising titres.

There were only low levels of coughing in this barn until the pigs were 9 weeks old when the cough became moderate.

Control: This producer was encouraged to vaccinate open sows to reduce the spread of PRRS in the farrowing room. A mycoplasma vaccine used in the nursery pigs will reduce the impact of mycoplasma in older pigs.

Take Home Message

- Serological bleeding can be performed by bleeding 10 pigs from each age group and measuring the percent of positive pigs by age to understand the time the disease agents are active in the barn
- pulse medication can be used two weeks before the titres rise or when you normally start to see signs of clinical disease

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