

PRRS Antibody in Piglets: When they lose Colostral Protection

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Background:

Producers use early weaning in an attempt to raise clinically healthy pigs in the nursery and grower-finisher stages. Understanding how long the colostrum-derived PRRS antibodies last in a group of commercial pigs will help us to understand the impact of weaning age on the likelihood of producing nursery pigs without active PRRS infections.

Objective:

To determine the decline of passive immunity in piglets in commercial herds.

Methods:

On 7 commercial farms, 5 piglets in each of 21 litters were individually ear tagged. A blood sample was taken in the first week of life (2 – 6 day old pigs) and then every 2 weeks until the end of the nursery phase (10 – 12 weeks of age). The serum was tested using the PRRS IDEXX ELISA test. Pigs were considered seropositive (positive for PRRS antibodies) if the value of the test was 0.04 or larger.

Results:

The percent of positive pigs in the first week of life differed by farm. In 3 farms, only 42% - 57% of pigs were positive. In another 3 farms, 71% to 85% of the pigs were seropositive. On the farms with higher numbers of positive pigs, sows and gilts were vaccinated against the PRRS virus. The half-life of the maternal antibodies for PRRS was between 11 and 16 days of age. The age when only 50% of the pigs had maternally derived antibodies depended on the farm. In the farms with small numbers of positive pigs, by 2 to 6 days of age, only half of the pigs were still seropositive. In the other farms, half of the pigs were positive at 12 to 19 days of age. These farms with longer lasting immunity tended to be farms that vaccinated sows and/or gilts against PRRS. In pigs that were still seropositive, the PRRS antibodies continued to decrease until the pigs were 5 – 7 weeks of age. Even though pigs became negative to the antibody test at a young age, pigs continued to be protected until they were between 2.2 and 3.1 weeks of age.

Take-home message

- Depending on the farm, half of the pigs were seronegative at 2 to 19 days of age
- Vaccinating sows and gilts increased the time when pigs were protected against PRRS

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