

SERUM PROFILING AND ANTIBIOTIC USAGE TO EVALUATE THE EFFECT OF UNISTRAIN® PRRS VACCINATION

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INTRODUCTION

At a Dutch farm a recurrent respiratory problem appeared in the weaned piglets of 6-8 weeks of age. Clinical signs were coughing and diminished growth. Antibiotics were used to relieve clinical signs. Diagnosis was made by a serum profile, collecting blood in various age groups. The outcome of the serum profile made the farmer change his PRRS vaccination strategy.

MATERIAL & METHODS

The serum profile consisted of blood samples from 7 animals from each of the following groups: gilts of 5 and 8 months, 1-st, 3-rd, 5-th and 7-th parity sows, piglets of 4, 7 and 10 weeks of age. The pathogens monitored were PRRS, App, *Mycoplasma hyopneumoniae*, Erysipelas, Parvo and Influenza. Collection data were October 2016, March 2017 and October 2017. Antibiotic usage was monitored according to the Dutch system of Defined Daily Dose Animal (DDDA) per year at farm level. Calculating the weighted use of antibiotics per animal per farm (<http://www.autoriteitdiergeenemiddelen.nl/en/home>)

RESULTS

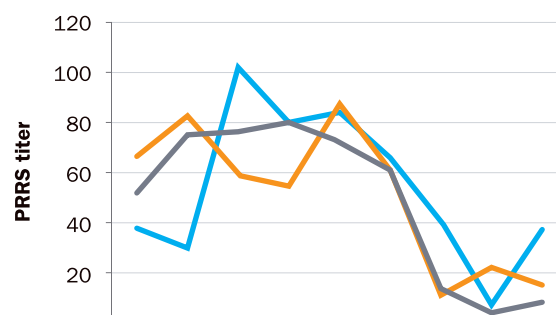
In serum profile October '16 sows of parity 1 had high average PRRS titers above 100 indicating a field infection. These sows were mass vaccinated other commercial available MLV PRRS vaccine intra-muscularly 4 times a year.

The piglets were not vaccinated and maternal PRRS titers decreased at week 4 and 7 of age, but at 10 weeks average titers increased and got positive for PRRS (Cut off > 20 is positive). The farmer changed the vaccination strategy per 1-11-'16 to 4 times a year intradermal mass vaccination of the sows plus intradermal vaccination of the piglets with HIPRA MLV vaccine (UNISTRAIN® PRRS) at 3 weeks of age.

Follow up with serum profiles at March '17 and October '17 showed lower average titers in the sows at various parities. Average PRRS titers in the piglets at 10 weeks of age declined to negative (see Graph 1). Clinical signs diminished and also antibiotic usage against respiratory signs decreased (See Table 1).

The DDDA were calculated in the period 10 months before piglets were vaccinated with UNISTRAIN® PRRS ID and 11 months after starting vaccination. The DDDA decreased from 70,7 to 11,4.

Graph 1. Average PRRS titers/age group.



	G 5 Mo	G 8 Mo	P 1	P 3	P 5	P 7	4w	7w	10w
Oct. 2016	37	29	101	80	83	65	39	6	37
March 2017	66	81	59	54	86	61	11	22	15
Oct. 2017	52	75	76	80	72	60	14	4	8

Age group

Table 1. Defined Daily Dose Animal per year at farm level of weaned piglets for respiratory diseases.

	February 2016 - November 2016	December 2016 - October 2017
Doxycycline	38,9	8,5
Tilmicosine	4,2	0
Tylosine	27,6	2,9
TOTAL	70,7	11,4

DISCUSSION & CONCLUSION

Serum profiling gives a clear indication of the course of serum titers. Important is to take a high number of samples at several age groups. In this way, it can give an indication of the start of infection in a herd and the preferred vaccination moment.

In this study, serum profiling was used to gain insight in the course of a PRRS infection at a farm with complaints. It showed that the vaccination strategy should be changed. The effect of this change of the vaccination schedule was followed up by serum profiling and antibiotic usage.