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# COMPARISON OF 3 DIFFERENT TYPES OF SAMPLES TO DETECT TYPE 1 PRRS VIRUS ON PREWEANING

# PIGLETS IN AN ENDEMIC POSITIVE HERD AND PRACTICAL IMPLICATIONS

A. Lebret, G. Boulbria, P. Berton, F. Bouchet, J. Metais, V. Normand.

*Selarl Porc. Spective, Noyal Pontivy, France.*

## Introduction

PRRSv control protocol depends on infection dynamics in swine herds. Assessing stability in breeding herds is a main issue. The aim of this study was to compare the ability of three types of samples to detect PRRSv in pre-weaning piglets.

## Material and methods

The trial was performed in one PRRS positive, not vaccinated, farrow-to-finish farm. Four nonconsecutive farrowing batches, with respectively 30, 30, 30 and 20 litters were sampled. In each litter, a serum, an individual oral fluid sample (iOF) and a collective oral fluid sample (cOF) were taken. iOF was taken using a cotton swab put in the mouth of one piglet and cOF with a cotton rope. RT-qPCR (LABOFARM, Loudeac, France) was performed for all samples.

## Results

We consider a litter positive if at least one type of sample is positive. Sensitivities of blood sample, iOF and cOF are 67% (95% confidence interval at 41%, 80%), 23% (9%, 44%) and 77% (56%, 91%) respectively. Combining blood sample and cOF allows detecting 96% (95, 100%) of the positive litters. There is a clear statistical tendency of lower Ct values from sera than from cOF (Wilcoxon test, p=0.06). The Ct values from cOF are statistically lower when the serum of the piglet of the litter is positive (Wilcoxon test, p=0.02) but the opposite is not true (Wilcoxon test, p=0.58) suggesting that the positivity of the cOF is related to the number of viraemic piglets in the litter rather than to the high viraemia of one piglet.

## Conclusion

Serum and cOF are complementary. Concentration of virus in cOF is lower, lowering analytical sensitivity, but by sampling all piglets instead of only one, cOF increases the probability of sampling

positive piglets. A new highly sensitive sampling protocol could be to collect both cOF and serum of 1 piglet per litter.