

## SWINE HEALTH

**Title:** Development of cost-efficient herd testing protocols based on testing of pooled samples using ELISA – NPB #05-163

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### Abstract

The objective of this study was to evaluate the feasibility of pooling serum samples for detection of PRRSV by ELISA. In order to achieve this objective, 113 true positive samples and 100 false positive samples were tested undiluted and diluted 1:2, 1:4, 1:6, 1:8 and 1:10 in negative sera to estimate the Pool Sensitivity and Pool Specificity. The results were interpreted at three different ELISA cut-off values. The results show that pooling serum samples results in a decrease in Se and an increase in Sp, compared to testing individual samples, while the reduction of the s/p cut-off value recommended by the manufacturer had the opposite effect. Furthermore, we identified several combinations of pool size, cut-off value and sample size that are superior to the traditional protocol (individual samples, cut-off of 0.4) in terms of Herd Sensitivity and Herd Specificity. Therefore, the conventional monitoring protocols based on ELISA on individual samples can be improved by using pooling.

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