



IMM-037

## CHEMICAL CLARIFICATION OF ORAL FLUIDS DOES NOT AFFECT PRRSV IGG ELISA

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### Introduction

Routine surveillance using individual animal samples (serum, nasal swabs) is labor intensive and expensive. In contrast, oral fluids are easily collected and welfare-friendly. However, oral fluid often contains feed, feces, and other undesirable contaminants/particulates. Processing (filtration or centrifugation) of oral fluids is not practical in high-throughput laboratories, e.g., our laboratory performs 200,000 oral fluid tests annually. Alternatively, highly reactive chemicals (coagulants and flocculants) are used to clarify liquids in a wide variety of applications. The objective of this study was to determine whether clarification of oral fluid with one such chemical (chitosan) would affect PRRSV IgG antibody.

### Methods

Oral fluids of known status were generated by vaccinating pigs (n = 17) with a PRRSV MLV vaccine. Individual pig samples were collected from day post vaccination -7 to 42 and subdivided into 4 aliquots. Each aliquot was treated with one flocculant formulation (A, B, C) with the 4th aliquot serving as an untreated control (NC). All samples were tested with a commercial PRRSV oral fluid IgG ELISA immediately after treatment (day post-treatment DPT 0) and then held at 4°C and re-tested on DPTs 2, 4, 6, and 14.

### Results

Statistical analyses (Kruskal-Wallis and Cochran's Q tests) detected neither an immediate effect (DPT 0) nor residual effects (DPT 2, 4, 6, 14) of clarification treatments on the PRRSV oral fluid IgG ELISA quantitative (S/P) or qualitative (positive-negative status) results.

### Conclusions

Clarification of oral fluids using chitosan-based formulations did not affect PRRSV IgG ELISA testing. These results suggested that chitosan (or other chemicals) could be used to clarify oral fluids without affecting antibody detection. This approach could be adapted for use in the field or used in the laboratory prior to testing. Further, this process may improve the handling of other diagnostic specimens, e.g. feces. Additional research is justified by these results.