



## HERD HEALTH MANAGEMENT & ECONOMY

HHM-070

### THE DEVELOPMENT AND USE OF PCR'S IN PORCINE RESPIRATORY DISEASE COMPLEX (PRDC) CONTROL

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#### Introduction

PRDC is one of the major swine disease complex and is economically important. Since it is a complex of multiple pathogens, diagnosis of PRDC is not always easy. PCR's have become a common tool in diagnostics, both for clinical diagnosis and monitoring program. This paper is describing the developments of a full respiratory PCR panel.

#### Methods and materials

Pathogens: PPRSV, PCV2, SIV, Mycoplasma's, APP, Hps.

Design of specific primers and probes: literature search, GenBank and unique in house post-blast software.

Set up: pathogen specific PCR's and multiplex PCR's.

Pathogens: PPRSV, PCV2, SIV, Mycoplasma's, APP, Hps.

Sensitivity testing: reference strains, vaccine strains, cultures, tissues, blood/serum, oral fluids and FTA cards.

Specificity testing: non relevant bacteria, viruses and related pathogens.

Extraction methods: crude methods such as heat boil and extraction buffers, spin column based methods and bead based methods.

PCR Cyclers: different most used PCR cyclers.

Run protocol: all PCRs are running on the same PCR cycler protocol.

#### Results

From the results all PCR's showed a highly specific and highly sensitive performance with a low level of detection. Set up in multiplex formats are performing similar to single format PCR's.

#### Discussion and conclusion

In PRDC one should test for all possible pathogens which could be involved. Since this can be an expensive exercise, multiplex PCR's can be help to determine the pathogens of interest in a cost effective way. If followed up by specific target PCR's in order to gain in depth information on pathogens of interest it becomes a powerful approach. The availability of a full respiratory panel in different formats will be of help to make the correct diagnosis in a limited time with limited costs and with valuable information.