VIRAL DISEASES

VVD-027

PROCESSING FLUIDS FOR PRRSV MONITORING AND SURVEILLANCE SYSTEMS

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Introduction

PRRSV is a serious and expensive problem, costing USA swine industry more than $ USD 1 billion per year. A critical step to control and eliminate PRRSV in production systems is to interrupt the transmission cycle in breeding herds, Thus, effective PRRSV monitoring is essential to measure progress towards PRRS control and elimination efforts. The objective of this study is to describe the use of "processing fluids" to strengthen monitoring and surveillance systems in breeding herds.

Materials & Methods

Processing fluids (PF) are a serosanguinous fluid recovered at the time of piglet tail docking and castration. One group of 12 PF samples were collected from 4 sow farms, and 30 matching individual piglet serum samples were collected on the same day from the same piglets for detection of PRRSV by PCR. A second group of PF samples (n = 20) were collected from 5 sow farms, and 30 matching tail blood swabs (TS) were collected on the same day from the same piglets for detection of PRRSV by rRT-PCR and PCV2 by PCR.

Results

The frequency of PRRSV detection by rRT-PCR in PF surpassed that of the matching 30 individual blood samples. Higher frequency of PRRSV detection was also observed in PF when compared with the matching 30 individual TS. Additionally, PCV2 DNA was detected at a greater frequency in PF than in the matching 30 individual TS.

Discussion

PF sample volume allowed for multiple diagnostic tests. PF demonstrated a higher sensitivity to detect PRRSV and PCV2 when compared to individual serum and TS. PF are effective for monitoring PRRSV and PCV2 in suckling pigs with superior sensitivity, thus, this novel sampling methodology represents an improvement for screening infectious diseases in breeding herds and is becoming a powerful tool to strengthen monitoring and surveillance systems in swine operations.