

## Effect of PCV2 vaccination on growth performance in a subclinically affected herd

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### Introduction and Objectives

Porcine circovirus type 2 (PCV2) has been associated with different disease syndromes which have been summarized under the term porcine circovirus disease (PCVD) or porcine circovirus associated disease (PCVAD). There is increasing evidence that even in situations when obvious clinical signs are lacking PCV2 infection might have a negative impact (1). This might be referred to as subclinical form of PCVAD.

The aim of this study was to assess the efficacy of a single dose PCV2 vaccine (Ingelvac CircoFLEX<sup>®</sup>, Boehringer Ingelheim Vetmedica, Inc.) in weaned piglets on a subclinically affected herd.

### Materials and Methods

The study was conducted on a one site farrow-to-finish farm with 900 sows located in France. The system was positive for PRRS virus and for *Mycoplasma hyopneumoniae*. The farm did not show any clinical expression of PCVAD.

Conventional piglets were included in the study at 2 to 3 weeks of age (n=1548). The piglets were alternately assigned to the vaccinated or non-vaccinated group. Animals from both groups were commingled throughout the study. They were individually weighed throughout the study (3, 10, 15, 20 and 22 weeks of age). Viremia was determined by sampling 250 animals every other week until 22 weeks of age using a quantitative PCR (bioScreen GmbH, Muenster, Germany). The cut-off level was set at 10<sup>4</sup> genomic copies/ml serum. A clinical assessment of the study animals was performed on a weekly basis.

### Statistics

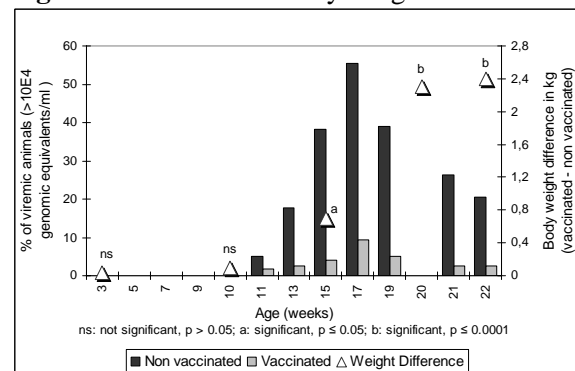
Body weights were compared using ANOVA and subsequent t-tests with “treatment group”, “week group”, “sex” and “initial body weight” as co-variables. The percentage of viremic animals, clinical signs

and mortality were compared using the Fischer’s exact test.

### Results

The peak of viremia determined by the percentage of viremic pigs occurred around 17 weeks of age (Figure 1) with 55% of pigs viremic in the non-vaccinated group. Significantly (p<0.0001) less pigs (9.4%) were infected in the vaccinated group. The general health status was good and was not significantly different between the groups. Overall wean-to-finish mortality was low with 4.53% in the non-vaccinated and 4.13% in the vaccinated group. A trend (p=0.0859) towards lower mortality in vaccinated compared to non-vaccinated pigs (3.02% versus 1.59%) was observed during the finishing phase (15-22 weeks of age). As shown in Figure 1, at the end of the trial, the vaccinated animals weighed 2.39 kg (p<0.0001) more than the non-vaccinated ones.

**Figure 1.** Viremia and body weight differences



### Conclusions

The general low morbidity and mortality rate confirmed the subclinical expression of the disease. Even in this situation PCV2 vaccination resulted in a significantly increased weight gain, confirming the positive effects of PCV2 vaccination on subclinically affected herds.

References: (1) Opriessnig et al. 2007. J Vet Diagn Invest 19(6):591-615