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Effect of PCV2 booster vaccination of asymptomatic sows on reproductive performance

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Introduction

PCVAD is an economically significant disease in the swine industry and is often associated with reproductive failure in pregnant females.¹ PCV 2 vaccination administered during gestation has shown a reduction of pre-weaning mortality and an increased number of live born piglets.² Few studies have been conducted to understand the effects of booster vaccination on reproductive parameters in PCV2 asymptomatic sow herds under field conditions. The objective of this study was to determine if booster vaccination of sows pre-breeding with a PCV2 vaccine could increase subsequent reproductive parameters in a PCV2 positive but asymptomatic herd.

Materials and Methods

The study sites included two 2500 head, high health sow herds, neither which were reporting concerns related to PCV2 in the sow herd or the downstream pig flow. Treatment groups were allocated based on existing sow ear tags in which a coin flip determined treatment. Parity distribution was the same between the groups. Treatment sows received 1 mL of Ingelvac CircoFLEX[®] (Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO) intramuscularly pre-breeding. No placebo was administered to the unvaccinated controls. Twenty-six weeks worth of breed groups (n=5844 sows) were included in the study. Parity one animals were excluded from the study as all gilts were PCV2 booster vaccinated at entry to the sow farm. Cross fostering was only allowed within treatment groups.

Results

Table 1 shows no significant differences (P>0.05) between treatment groups for all parameters measured. Pigs weaned per-sow per-year was 24.28 for non-vaccinated controls (NVC) and 24.36 for the Ingelvac CircoFLEX[®] treatment group.

Table 1. The effect of PCV2 vaccination of sows on reproductive performance

Variable	Vaccine Treatment		P-value
	NVC	CircoFLEX	
Farrow Rate, %	91.50 (1820/1989)	92.76 (1716/1850)	0.15
Total born, hd/litter	13.29	13.25	0.68
Mummy/litter, %	1.89	1.86	0.63
Stillborn/litter, %	4.71	4.89	0.79
Live born, hd/litter	12.37	12.33	0.64
Pre-wean Mortality, %	10.71	10.93	0.31
Weaned, hd/litter	10.55	10.58	0.67
Wean to service interval, days	4.96	4.90	0.68

Discussion

Under the conditions of the study, booster vaccination of mature sows with Ingelvac CircoFLEX had no impact on the reproductive parameters measured in an asymptomatic herd. This data indicates sows can be safely vaccinated pre-breeding. The study outcome may have been impacted by: 1) PCV2 stability of the sow farm, 2) PCV2 booster vaccination of all mature replacement gilts prior to and during the study, or 3) a lack of PCV2 concerns in the downstream pig flow during the study. Results may be different in a poorer performing herd with perceived concerns with PCVAD downstream.

References

1. West, K., et al. 1999. J Vet Diagn Invest 11:530–532.
2. Herrera, A. 2011, Proc 6th Int Symp on Emerg and Re-emerg Pig Dis 138.