

A comparative field efficacy study comparing two multinational one shot PCV2 vaccines in a 1,800 sow farm in Korea



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INTRODUCTION

Porcine circovirus type 2 (PCV2), a small, non-enveloped, single stranded circular DNA virus, is the causative agent of several diseases and syndromes referred to as porcine circovirus associated disease (PCVAD). PCVAD is considered to be an economically important disease. In Korea, most swine farms control PCVAD by vaccination against PCV2. After of the implementation of PCV2 vaccination, overall PCVAD is well controlled and vaccination is considered as the most efficient way to control PCVAD in Korea. PCV2 vaccines have been developed by several global and local (Korean) animal health companies. However the different PCV2 vaccines show differences in efficacy and safety (da Silva N., 2014). Vaccine efficacy, safety and return of investment are the most important criteria for to the selection of a vaccine.

The purpose of this study was to compare two PCV2 vaccines developed and marketed by two global animal health companies in terms of efficacy and cost – effectiveness.

MATERIALS AND METHODS

The field observation was conducted on a three-site production farm with 1,800 sows. Piglets are weaned at 21 days of age and transferred to the nursery site. At around 70 days of age growers are transferred to the finisher site. To compare the two different vaccine programs, piglets weaned between May 2014 and Sep 2014 were included in the field study. Farm performance parameters after weaning were recorded from 7,609 pigs weaned May 2014 to July 10, 2014 (Fostera PCV, treatment group A) and from 8,608 pigs weaned July 10, 2014 to September 2014 (Ingelvac CircoFLEX[®] treatment group B). Animals of both treatment groups were vaccinated at 21 days of age according to label. There were no other changes except PCV2 vaccination program. To evaluate the performance of the pigs in the two different treatment groups, mortality rate, average market weight and average daily weight gain (ADG) were recorded for each group.

Fisher's exact test was used to test differences of mortality between two vaccination groups.

RESULTS

Fostera PCV vaccinated pigs (Group A) showed higher mortality than Ingelvac CircoFLEX[®] vaccinated group (Group B). The wean-to-slaughter mortality was 10.2% for group A and 6.2% for group B ($p < 0.0001$). Average market weights of group A and B were 111.2 kg and 112.7 kg respectively. Average daily weight gain (ADG) from weaning to slaughter of the animals in group A and B were 782.4 g and 808.6 g respectively. The differences in performance results into a difference in margin over feed and medicine of 6.53 US\$ per pigs in favor for the Ingelvac CircoFLEX[®] vaccinated pigs.

CONCLUSION

The findings of this study are in line with other studies that show that Ingelvac CircoFLEX[®] is more efficacious compared to other PCV2 vaccines (Jung, 2011 and Kim and Seo., 2012). The economic evaluation highlights the importance of vaccine efficacy. When it comes to the selection of a PCV2 vaccine efficacy and return of investment together with vaccine safety are the most important criteria. Vaccine cost should only be considered in the context of vaccine efficacy and return on investment.

Table 1: Number of dead pigs per production phase and wean-to-finish mortality in each group

	Group A	Group B
Number of pigs	7,600	8,608
Number of dead pigs	Nursery	406
	Grower-Finisher	232
Mortality (%)	10.2	6.2

Table 2: The variations of ADG and average market weight in each group

	Group A	Group B
ADG (g)	782.4	808.6
Average market weight	111.2	112.7

