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The effect of commercial combination PCV2/*Mycoplasma hyopneumoniae* vaccination products on wean to finish performance

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Introduction

Two combination Porcine circovirus type 2 (PCV2)/*Mycoplasma hyopneumoniae* (M.hyo) are currently available in the US. The objective of this study was to monitor weight, average daily gain (ADG) mortality, and cull rates.

Materials and Methods

Pigs were housed in three, 2,400 head commercial wean-to-finish facilities. A total of 2338 pigs (3 weeks of age; ~800 pigs/barn) were tagged in the left ear and weighed. Pigs were allocated to pens by treatment and were blocked by sex and weight. All treatment groups were comingled in pens (80 pigs/pen). The vaccination protocol is described in Table 1. Individual pigs were restrained and injected in the right neck with an 18g x 5/8" needle on day 0. Needles were changed every 15 pigs per treatment group to mimic standard field conditions.

Table 1. Vaccination Protocol

Treatment	N	Dosage	Doses
NVC	292	2ml	2 (d0,d17)
Treatment 1*	102	2ml	1 (d0)
	4		
Treatment 2**	102	2ml	2 (d0,d17)
	2		

*Ingelvac[®] CircoFLEX-MycoFLEX[™] (Boehringer Ingelheim Vetmedica, Inc, St. Joseph, MO)

** Circumvent[®] PCV M (Merck, Summit, NJ)

Pigs were individually weighed at marketing. Three marketing cuts occurred in each barn. Overall ADG was calculated and days to market, mortality, and cull rates were recorded. A pig was considered a cull if it was less than 230 lbs at the final marketing cut. Data from the three replicates was aggregated for analysis. Serology was completed and a confirmed M.hyo and PCV2 challenge occurred during the finishing period in all 3 reps and a PRRS challenge occurred during the

finishing period in 2 of the 3 replicates. Data was analyzed using JMP 8 (SAS).

Results

Weight, average daily gain (ADG) and mortality are reported in table 2.

Table 2. The effect of treatment on pig performance and mortality.

Parameter	Vaccine Treatment		
	NVC	Tx 1	Tx2
No. of pigs placed on test	292	1024	1022
d0 weight, lb	10.83	11.00	10.99
Market Wt. lb	267.4 ^b	273.5 ^a	270.7 ^b
Overall ADG, lb/d	1.67 ^b	1.72 ^a	1.69 ^b
Days to market	154.4 ^a	153.3 ^b	153.8 ^{ab}
Mortality, %	3.46 ^d	1.27 ^e	1.47 ^e
Cull rate, %	4.60 ^d	1.67 ^e	3.33 ^d

^{ab}Means differ (Tukey's HSD P≤0.05).

^{de}Means differ (Fisher's Exact Test, P≤0.05)

Conclusions and Discussion

Under the conditions of this study, pigs in Trt 1 had significantly higher overall ADG compared to both the NVC and Trt 2 pigs. Due to the higher ADG, pigs in Trt 1 were 6.1 and 2.8 lbs heavier at market compared to pigs in the NVC and Trt 2 groups, respectively. Pigs in Trt 2 had similar ADG and final market weight as pigs in the NVC group. Days to market were significantly shorter for pigs in Trt 1 compared to the NVC pigs but similar to pigs in Trt 2. Both pigs in Trt 1 and Trt 2 had significantly less mortality compared to the NVC pigs. However, pigs in Trt 1 had significantly lower cull rate compared to pigs in both the NVC and Trt 2. Differences may exist between commercially available combination PCV2/M.Hyo vaccines.