

Impact of PCV2 vaccination around weaning on nursery weight gain

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Introduction

PCV2 vaccination is widely used in pig production all over the world. Most commonly vaccination is administered at or around weaning time. For some vaccines it has been reported that vaccination around weaning can have a negative impact on the feed intake and growth in the period following vaccination, resulting in significant weight differences at the end of the nursery (Potter et al., 2012). The present abstract describes the results of a customer initiated, field observation focusing on the impact of two different PCV2 vaccines on the nursery weight gain.

Materials and Methods

The field observation was carried out on a farrow-to-nursery farm in Southern Germany after a Veterinary Practitioner wanted to evaluate PCV2 vaccine options. Healthy litters from one sow batch (46 sows) were randomly allocated at 3 weeks of age to two different treatment groups balanced according to health status (average, above average, very good). Non-healthy litters (4) were excluded from the observation. Allocation resulted in two treatment groups of 230 pigs each. The treatment each group received was decided by tossing a coin. Group 1 received Suvaxyn PCV (Zoetis), 2 ml i.m., group 2 was treated with Ingelvac CircoFLEX[®] (Boehringer Ingelheim), 1 ml i.m. Pigs in both groups were vaccinated on the same day with Ingelvac MycoFLEX[®] on the opposite neck side of the PCV2 vaccine.

Pigs were weighed in groups of 1-8 animals selected randomly at inclusion and 40 days post vaccination (ahead of moving out of nursery). 20 pigs from each group were bled at 4 weeks post vaccination and then again every 3 weeks until slaughter. Blood samples were tested for PCV2 antigen and antibodies by qPCR, IgM and IgG (Ingenasa ELISA) and PRRSV by PCR, both type 1 and 2. (All testing was done at BIVRC, Hannover).

End weight differences between the groups were analyzed using ANOVA procedure considering start weight as covariate (GLM Procedure, SAS V9.2, Cary, NC)

Results

Average inclusion weight of Group 1 was 6.7 kg and group 2 was 6.8 kg, this difference was not statistically significant. End of the nursery average weight and weight gain of both groups is shown in table 1. The nursery end weight was statistically different ($P \leq 0.05$) between the 2 groups. No PCV2 antigen was detected in any of the 2 groups throughout the study. PRRSV type 1 was detected in both groups 4 weeks post vaccination

but not later on. PRRSV type 2 was detected in both groups 7 weeks post vaccination but not later on.

Table 1. Summary of weight results (kg)

	1 (#43) Suvaxyn PCV	2 (#44) Ingelvac CircoFLEX
Start weight (3w)	6,7 ^a	6,8 ^a
End Weight	19,36 ^a	20,42 ^b
Weight Gain (40d)	12,66 ^a	13,62 ^b
Difference (40 d)		0,96

Means with different superscripts are significantly different at $P \leq 0.05$.

Conclusions and Discussion

As no challenge with PCV2 virus was found in the nursery period, the differences in weight gain can only be due to different features of the vaccines. As feed intake data was not collected, we can only speculate that the superior growth for Group 2 vaccine was due to its proven excellent tolerance in pig vaccinated around weaning (Fangman et al., 2011). Reduced feed intake after application of other vaccines has been shown in previous studies (Potter et al., 2012, Johnson et al., 2013). A calculated difference of 960 grams by end of nursery means a lower price of about 1 Euro per pig sold (market value 7-2013), which should be taken into consideration when making a value based vaccine choice.

References

1. Fangman et al. (2011), JSHAP, 19-25
2. Johnson et al. (2013), AASV, 435-436
3. Potter et al. (2012), J Anim Sci, 4063-4071