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Impacts on performance with vaccination of one-week old piglets with a one-dose *Mycoplasma hyopneumoniae* vaccine

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Introduction and Objectives

Some practitioners recommend their customers to vaccinate piglets 1 week of age or earlier for *Mycoplasma hyopneumoniae (M hyo)* as they consider it to be more convenient than vaccination at a later age. However, there is a concern regarding the negative impact of handling and vaccinating pigs at this age due to added stress and side effects of vaccination. Body weight (BW) at weaning is known to be an important indicator of pig performance post-weaning[1]. This study evaluates the impact on weaning weight of vaccination of one-week of age old pigs with a mineral-oil based *M hyo* vaccine.

Materials and Methods

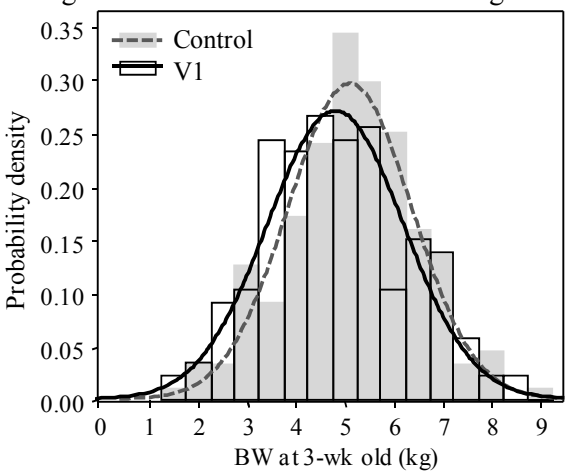
This study was performed in a 250 sow farrow-to-finish farm in the Kanto area of Japan. On study day 0 of the trial (7 days of age), all piglets (n=359) were individually ear-tagged and weighed. Piglets were blocked by weight and sex within their litters.The control group (n=178) was handled but was not administered an injection. The other pigs (V1, n=181) were vaccinated with a single 2 ml dose of a mineral-oil adjuvanted *M hyo* vaccine (Respisure-One, Pfizer Animal Health, Tokyo, Japan) according to label directions. Pigs were returned to their original sow in her farrowing stall. On study day 14, all piglets were weighed individually. Average weight gain (WG) and mortality rate of each group from study day 0 to 14 were calculated. Statistical analysis was made by using Minitab® 16.2.1 (Minitab Inc. State College, PA, USA).

Table 1. Performance data of study groups

Group	Mort %	BW (kg)		WG (kg) D0-14
		D0	D14	
Control (n=178)	2.2 (4/178)	2.54 ±0.69	5.14[a] ±1.47	2.59[a] ±0.99
V1 (n=181)	5.0 (9/181)	2.51 ±0.66	4.83[b] ±1.47	2.30[b] ±1.12

a,b: Significant difference between groups (p<0.05, student t-test)

Fig 1. Distribution of BW at 3-wk of age



Results

Mortality, body weight and calculated weight gain are displayed in Table 1. Figure 1 shows the distribution of body weight at 3 weeks of age.

Discussion and Conclusions

Under the conditions of this study, vaccinating at 1 week of age with a mineral-oil based *M hyo* vaccine had a significant negative impact on the weight gain during the last two weeks of the suckling period and consequently on the weaning weight. In addition, mortality in the last two weeks of the suckling period was numerically higher in the vaccinated group.

In conclusion, this study indicates that performance losses associated with vaccination at one week of age might be an important factor to be considered when developing a vaccination program.

References

1) Grau et al., Can J Vet Res 69 (2005): 241-245.

Abstracts