

INTRADERMAL VACCINATION WITH UNISTRAIN® PRRS IN GILTS IMPROVES THE PERFORMANCE OF THEIR OFFSPRING

Simon-Grifé¹, M.; Ros¹, M.; Saun¹, X.; March¹, R.; Sitjà¹, M.; Fenech^{*1}, M.
¹HIPRA, Amer, Spain



INTRODUCTION

The aim of this study was to demonstrate that UNISTRAIN® PRRS applied by the intradermal route (ID) with a Hipradermic® device in gilts improves the performance of piglets born from vaccinated gilts.

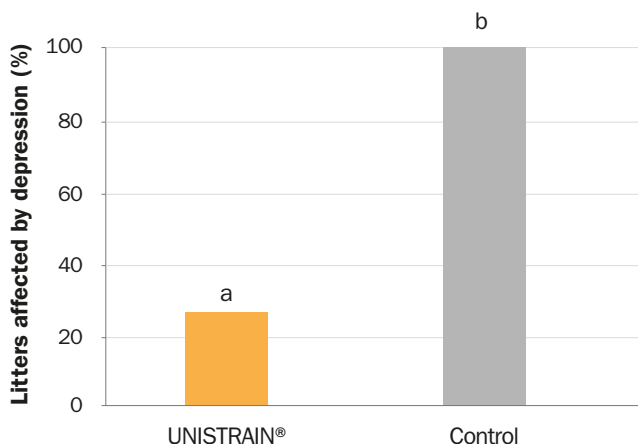
MATERIAL & METHODS

Sixteen gilts, clinically healthy and free from virus and antibodies against PRRS, were randomly assigned to two different groups. One group was vaccinated with UNISTRAIN® PRRS by the ID route (0.2 ml/dose; $10^{3.5}$ CCID₅₀/animal) 4 weeks before artificial insemination (AI). Animals in the non-vaccinated control group received 0.2 ml of PBS (ID). At 90 days of gestation, all the gilts were challenged by intranasal route with a heterologous pathogenic strain of genotype I PRRSV (Italian strain; 89% ORF5 homology; $10^{5.4}$ CCID₅₀/gilt).

RESULTS

Piglets from the non-vaccinated gilts (10.6%) suffered more clinical signs than those born from gilts that had been vaccinated (1.1%). Depression and anorexia were the two clinical signs most observed in this group, and the difference in the proportion of litters affected by depression was statistically higher in the non-vaccinated group (8/8 litters) than in the UNISTRAIN® group (2/8 litters).

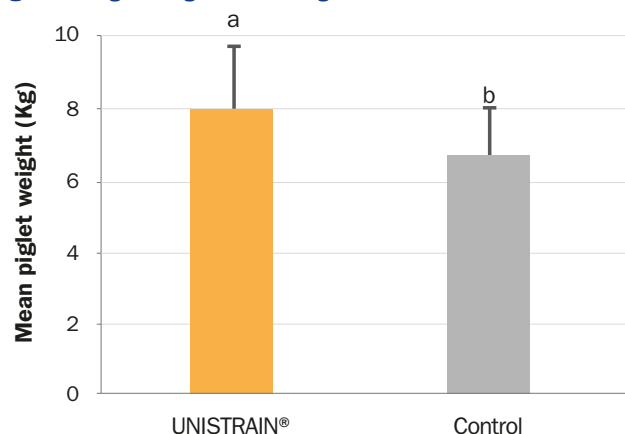
Figure 1. Clinically affected litters after challenge.



Different superscript letters indicate statistically significant differences ($p < 0.05$) among groups.

Indirectly, vaccination of the gilts had an impact on their litters with significantly ($p < 0.05$) better weight performances and average daily weight gain in the vaccinated group (232.5 g/piglet/day ± 45.1 g) vs control group (191.8 g/piglet/day ± 46.9 g).

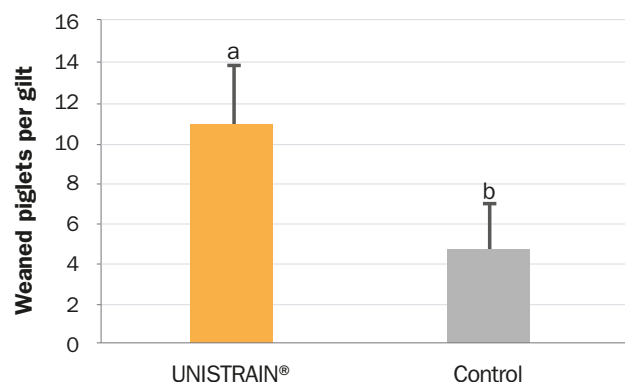
Figure 2. Piglet weight at weaning.



Different superscript letters indicate statistically significant differences ($p < 0.05$) among groups.

Furthermore, vaccination with UNISTRAIN® PRRS by the ID route resulted in a significantly higher number of piglets weaned (10.6 ± 2.9 weaned piglets) than in control group (4.3 ± 2.1 weaned piglets).

Figure 3. Weaned piglets at 28 days postpartum.



Different superscript letters indicate statistically significant differences ($p < 0.05$) among groups.

DISCUSSION

Vaccination of gilts with UNISTRAIN® PRRS ID by Hipradermic® improves piglet performance. Moreover, piglets were healthiest during the lactation period and the number of weaned piglets also increased when females were vaccinated with UNISTRAIN® PRRS.