



## IMMUNOLOGY & VACCINOLOGY

IMM-029

### FIELD EVALUATION OF ID AND IM PRRSV MLV VACCINATION IN SUCKLING PIGLETS ON HEALTH AND PERFORMANCE

G. Maragkakis<sup>1</sup>, V. Papatsiros<sup>1</sup>, S. Chaintoutis<sup>2</sup>, D. Maes<sup>3</sup>, E. Tzika<sup>4</sup>, P. Tassis<sup>4</sup>, M. Kargaridis<sup>5</sup>, G. Christodouloupoulos<sup>6</sup>.

<sup>1</sup> Faculty of Veterinary Medicine- University of Thessaly, Clinic of Medicine, Karditsa, Greece;

<sup>2</sup> Faculty of Veterinary Medicine- Aristotle University of Thessaloniki, Diagnostic Laboratory, Thessaloniki, Greece; <sup>3</sup> Ghent University, Department of Obstetrics- reproduction and herd health, Merelbeke, Belgium; <sup>4</sup> Faculty of Veterinary Medicine-Aristotle University of Thessaloniki, Farm Animals Clinic, Thessaloniki, Greece; <sup>5</sup> MSD Animal Health, Swine Department, Athens, Greece;

<sup>6</sup> Faculty of Veterinary Medicine-University of Thessaly, Clinic of Medicine, Karditsa, Greece.

#### Introduction

PRRSV vaccination is a potential strategy to reduce not only the virus shedding, but also the severity of respiratory signs of growing/finishing pigs. This field study evaluated the ID and IM vaccination in suckling piglets.

#### Material & Methods

The study included 187 piglets (2 weeks-wks) from a PRRSV-positive farm (11-12 x 4 groups x 4 replicates); group A: IM-vac with Porcilis®PRRS at 2wks, group B: ID- vac with Porcilis®PRRS at 2wks, group C: ID placebo, group D: IM placebo. Indicate when they were vaccinated. Blood samples were collected at 4, 7, 10, 13, 17 and 21 wks. Sera were examined by qRT-PCR for PRRSV (types 1 and 2) and by ELISA for PRRSV Abs. Local/systemic reactions, performance parameters (ADG), mortality, lung lesion (LLS) and pleurisy score (PS) were recorded.

#### Results

Based on qRT-PCR Ct results (0=negative, 1=weak positive-Ct $\geq$ 35, 2=positive-Ct<35,  $\geq$ 25, 3=strong positive-Ct<25) category 3 was more frequent in non-vaccinated groups at 7, 10 and 13 wks. The analysis of ELISA and qRT-PCR results indicated that the ID or IM vaccination induces important seroconversion 2-5 wks after vaccination.

No local/systemic reactions were observed. ADG from admission of vaccination until slaughter was statistically improved in group B (A:0.75 $\pm$ 0.01, B:0.74 $\pm$ 0.01, C:0.72 $\pm$ 0.01, D:0.71 $\pm$ 0.01; BvsC-p=0.043, BvsD-p=0.043). The mortality rate at finishing stage (A:4.3%, B:2.3%, C:17.5%, D:17.9%; AvsC-p=0.039, AvsD-p=0.039, BvsC-p=0.015, BvsD-p=0.015) and totally from nursery to finishing stage (A:6.3%, B:8.5%, C:28.3%, D:32%; AvsC-p=0.002, AvsD-p=0.002, BvsC-p=0.007, BvsD-p=0.005), as well as the LLS (A:7.76 $\pm$ 2.89, B:7.57 $\pm$ 2.99, C:11.44 $\pm$ 6.43, D:11.84 $\pm$ 7.07; AvsC-p=0.001, AvsD-p=0.002, BvsC-p=0.001, BvsD-p=0.001) and PS (A:0.06 $\pm$ 0.25, B:0.06 $\pm$ 0.32, C:0.46 $\pm$ 0.75, D:0.45 $\pm$ 0.77; AvsC-p=0.001, AvsD-p=0.002, BvsC-p=0.001, BvsD-p=0.001) were significantly lower in vaccinated groups.

#### Discussion & Conclusion

Both ID and IM vaccination against PRRSV leads to a significant decrease of mortality rate and of respiratory disorders compared to non-vaccination. Moreover, ID vaccination has beneficial effects on protection against PRRSV viremia, equally with IM vaccination.