# Efficacy of Porcilis® PCV M Hyo in reducing disease in a Spanish herd affected by post-weaning multi-systemic wasting syndrome

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## Introduction

Vaccination against PCV2 and M hyo is standard practice in the pig industry. The investigational product, Porcilis® PCV M Hyo, is a new combination vaccine that induces immunity against both porcine circovirus type 2 (PCV2) and *Mycoplasma hyopneumoniae* (M. hyo). The aim of the present study was to assess the efficacy of this new vaccine after single vaccination of 3 weeks old piglets under field conditions in a Spanish farm.

## Materials and Methods

The study was designed as a controlled, randomized and blinded field trial and conducted in a farrow-to-finish herd with confirmed PCV2 and M. hyo infection. PCV2 infection was confirmed by seroconversion and PCR positive results between 12 and 20 weeks of age, and M.hyo by presence of compatible lesions at slaughterhouse. Levels of PCV2 MDA were also determined at 3 weeks of age, and classified as moderate (1). Healthy 3-week old piglets were allocated randomly, within litters, to one of two groups of 303 piglets each: test (2 ml Porcilis® PCV M Hyo) and control (2ml Unisol) group. Pigs were weighed individually at admission, at transfer to the finishing unit, and just before slaughter, and average daily weight gain (ADWG) calculated. Medication and mortality were recorded daily. The lungs of the pigs were examined individually at slaughter and scored for typical M. hyo lesions (LLS) according to the method of Goodwin and Whittlestone, and for pleurisy. Fifty-four pigs total were selected for blood and swab (nasal and rectal) sampling at regular intervals, to analyse antibody titres, PCV2 viremia and PCV2 shedding. Safety was also assessed based on systemic and local reactions after vaccination.

## Results

Vaccination with Porcilis® PCV M Hyo promoted an improvement in ADWG in the finishing period of +35 g/day (Table 1). Vaccination also reduced PCV2 viremia (Graph 1; p<0,0001), nasal shedding (p<0,0001) and rectal shedding (p<0,05) , in quantity and percentage of animals.

Mean pleurisy and LLS were not significantly reduced by the vaccination. However, the low mean LLS and the low percentage of seropositive pigs at the end of the study are indicative for a late M. hyo infection, and therefore lesions might not have fully developed at time of slaughter. Mortality and morbidity were not different between groups.

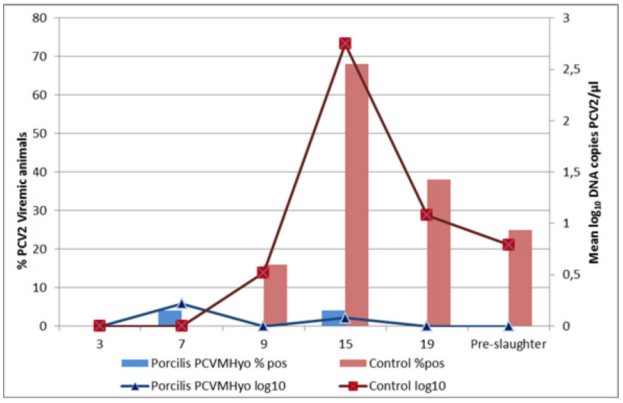
No local reactions were observed after vaccination with Porcilis® PCV M Hyo, and only 2% of the animals of both study groups were less active at some point during the 14 days after vaccination (p>0.05).

**Table 1.** Body Weight and ADWG (Mean ± SEM)

| | Porcilis PCVMHyo | Control |
|---|---|---|
| BW ± 3w (kg) | 6.2 ± 1.3 | 6.4 ± 1.4 |
| BW ± 10w (kg) | 21.2 ± 3.8 | 21.5 ± 4.1 |
| BW ± 23 w (kg) | $94.1^{a}$ ± 11.6 | $91.6^{b}$ ± 13.6 |
| ADWG Nursery (g/d) | 317 ± 5.1 | 320 ± 5.1 |
| ADWG Finishing (g/d) | $796^{a}$ ± 9.2 | $761^{b}$ ± 9.3 |

*$^{a,b}$: values with different superscripts in the same rows present statistically significant differences; p< 0.0001*

**Figure 1.** PCV2 viremia (% positives and quantity)




## Conclusion

Porcilis® PCV M Hyo was found to be safe and efficacious in reducing the level of PCV2 viremia and shedding and in improving the ADWG during the finishing period in pigs infected with PCV2 and Mhyo. Although Mhyo lesions were not different between treatment groups due to the low challenge in this farm, Porcilis® PCV M Hyo was shown effective against Mhyo in several other field studies (2).

## References

1. Fachinger et al, 2015. Proc of the ESHPM Nantes.
2. Holtslag et al, 2015. Proc of the ESHPM Nantes.

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