

# Real world experiences with a new ready to use combination vaccine

Porcine Circovirus type 2 (PCV2) and *Mycoplasma hyopneumoniae* (M. hyo) are significant contributors to respiratory diseases in pigs and pose a considerable burden to swine producers because of the large economic losses in farms around the world.

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By themselves, PCV2 and M. hyo cause mild disease, but in concurrent infection, these pathogens act together to increase the severity and duration of respiratory disease and lesions in pigs. PCV2 enhances the severity of M. hyo lesions and M. hyo enhances the severity of PCV2 viraemia.

Since vaccination against one of the two pathogens alone is not sufficient to protect animals from dual infections, vaccination against both pathogens at the same time is recommended, a practice that has increasingly become more common.

A series of recent real-world studies on farms in the Czech Republic and Slovakia evaluated Porcilis PCV M Hyo, the first ready-to-use PCV2 and M. hyo single-injection combination vaccine registered in the European Union, compared to tradi-

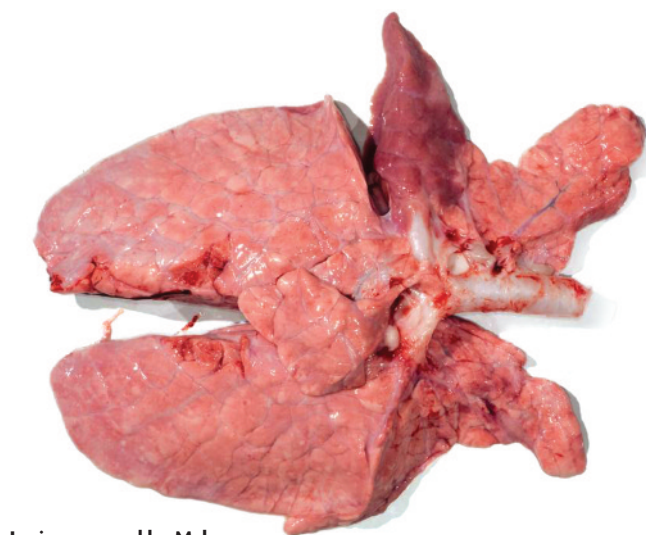
tional vaccination programs. In six studies, Porcilis PCV M Hyo improved performance of the pigs during the post-weaning and finishing phase in comparison with the existing vaccination program.

In addition to improving performance, Porcilis PCV M Hyo also saves time and labour and reduces the potential for handling error, because it does not require mixing. In fact, based on the results of one study in the Czech Republic, the farmer decided to switch from the existing vaccination program to Porcilis PCV M Hyo.

## Czech Republic

In one of the studies on a farm in the Czech Republic, the piglets were vaccinated against M. hyo at one week of age and against PCV2 at weaning (approximately 24 days of age). Piglets were also treated intramuscularly with antibiotics and iron during the first week after birth. After weaning, piglets were moved to a wean-to-finish unit in a different location.

The study included two groups of 1,200 pigs each. One group was vaccinated with the existing PCV2/M. hyo vaccination program, and the other group with Porcilis PCV M Hyo at weaning. Four parameters were monitored during the study: post-vaccination reactions; weight



Lesions caused by M. hyo.

before and after post-weaning period; weight before and after fattening period; and M. hyo lung lesions and pleurisy prevalence at slaughter.

There were no adverse events or negative impact on performance following vaccination. Vaccination with Porcilis PCV M Hyo improved the performance of the pigs with 2.5 days less in the post-weaning unit and increased average daily weight gain (ADG) by 15.25g.

In the finishing unit, feed conversion ratio (FCR) improved from 3.013 to 2.885, ADG increased by 31.5g, and mortality loss decreased from 3.173% to 1.925%.

M. hyo lung lesion scores were comparable between the two vaccination protocols, but pleurisy prevalence in Porcilis PCV M Hyo pigs was reduced by 4.5%.

## Slovakia

On a farm in Slovakia, the piglets were traditionally vaccinated against M. hyo at one week of age and at 21 days of age, and against PCV2 at 21 days of age. In this study, one group of piglets was vaccinated with the existing PCV2/M. hyo vaccination program, and the other group with Porcilis PCV M Hyo at weaning. The study found that 68.3% of pigs were free of M. hyo lung lesions with Porcilis PCV M Hyo vaccination, compared to 21.5% with traditional treatment.

The following improvements were also found with Porcilis PCV M Hyo vaccination on this farm, compared to two months prior:

- Average carcass weight (kg): 114.5 vs. 111.4.
- Average daily gain (g): 922 vs. 900.
- Decrease of mortality (%): 2.8 vs. 2.9.
- Feed conversion ratio: 2.63 vs. 2.68.

Similarly, in another farm in Slovakia, 59% of pigs were free of M. hyo lung lesions with Porcilis PCV M Hyo vaccination (vaccination at 24 days of age), compared to

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Table 1. Post-weaning period (Czech Republic).

After weaning period	No. of pigs	Date of weaning	Weaning weight (kg)	ADG (kg)	Days in unit	After wean weight (kg/pig)
Before test	280	6/3/15	6.24	0.536	45	29.89
	275	6/10/15	6.25	0.526	45	29.89
	550	7/1/15	7.51	0.447	43	26.74
	254	4/29/15	6.36	0.491	47	29.49
Average			6.59	0.4975	45	29
Test	537	7/8/15	6.1	0.476	42	26.11
	488	7/29/15	6.43	0.536	42	28.95
	265	8/5/15	6.4	0.551	41	31.48
	282	8/12/15	6.3	0.488	45	29.3
Average			6.3	0.51275	42.5	28.96

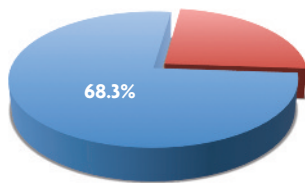
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32.8% with traditional vaccination program (the piglets were vaccinated against *M. hyo* at one week of age and 24 days of age, and against PCV2 at 24 days of age).

The following improvements were also found on this farm, compared to the three-month average:

- Average carcass weight (kg): 90.54 vs. 87.95.
- Average daily gain (g): 863.12 vs. 854.48.
- Decrease of mortality (%): 3.93 vs. 4.31.
- Feed conversion ratio: 3.01 vs. 3.08.

In addition, the prevalence of pleuritis – inflammation of the continuous membrane covering the outer surface of the lungs and inner surface of the thoracic wall and diaphragm – was significantly

**Fig. 1. 68.3% free of *M. hyo* lung lesions with Porcilis PCV M Hyo vaccination (Slovakia).**



Finishers	No. of pigs	Incoming date	Incoming weight (kg)	ADG (g)	FCR	Feed consumption (pig/day)	Losses (pigs)	Losses (%)
Before test	558	7/8/15	35.19	784	303	2.1	21	3.76
	552	24/7/15	35.07	757	3	2.26	22	3.98
	560	17/7/15	41.55	800	3.01	2.41	10	1.78
Average			37.27	780	3.013	2.356	17.666	3.173
Test	550	22/9/15	29.49	806	2.84	2.29	10	1.81
	539	5/10/15	29.23	817	2.93	2.39	11	2.04
Average			29.36	811.5	2.885	2.34	10.5	1.925

**Table 2. Fattening unit results (Czech Republic).**

reduced following Porcilis PCV M Hyo vaccination in both farms in Slovakia.

### Improved health in post-weaning and finishing phases

In a farm in Slovakia, the economic impact of vaccination with Porcilis PCV M Hyo during a one-month period was compared with the previous year average.

In summary, vaccination with Porcilis PCV M Hyo resulted in an additional profit of €30,823 for pigs at slaughter; an increase of €5,220 due to reduced mortality; and a saving of €12,992 in finisher feed because of improved FCR.

This added up to an increase in total profit of €48,000 during the one-month period compared to the average for the previous year.

In this series of studies, Porcilis PCV M Hyo was well-tolerated and also resulted in better respiratory health status and production during the post-weaning and finishing phases, including:

- Improved respiratory health supported by reduced *M. hyo* lung lesions and pleuritis lesions as well as fewer pigs with *M. hyo* lung lesions.
- Increased average daily weight gain in post-weaning unit and in finishers.
- Less days for keeping animals in post-weaning unit.

- Significant decrease of FCR.
- Significant reduction of mortality loss.

### Conclusion

Administration of the ready-to-use vaccine was convenient in reducing time and labour on these farms. In addition, the need for fewer injections with the combination vaccine reduced stress on the piglets.

Taken together, the results of these studies consistently demonstrate the benefits of a ready-to-use PCV2 and *M. hyo* combination vaccine in reducing the risk for respiratory disease and improving animal welfare overall. ■