

SWINE HEALTH FILES

SUMMARY



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- Fosterera® Gold PCV MH, a new inactivated vaccine from Zoetis, is the only PCV2 vaccine in the US and Canada with two genotypes — PCV2a and PCV2b — and it was shown in a study to be effective against 2d.
- Studies have demonstrated the vaccine's duration of immunity against PCV2a, PCV2b and *M. hyo* is at least 23 weeks.
- Fosterera Gold PCV MH will protect pigs through the finishing stage of production.

Fosterera® Gold PCV MH protects pigs against PCV2a, PCV2b and *M. hyo* for at least 23 weeks

Fosterera® Gold PCV MH, a new inactivated vaccine from Zoetis, is the only CFIA-licensed vaccine that protects pigs against porcine circovirus (PCV) type 2a, PCV2b and *Mycoplasma hyopneumoniae* (*M. hyo*) for at least 23 weeks, ensuring pigs are protected through the finishing stage of production.

The leading genotypes of PCV2 circulating among Canadian herds are 2a and 2b followed by 2d.¹ The new vaccine is the only commercial PCV2 vaccine in the US and Canada with both the 2a and 2b genotypes, and its efficacy against 2d was demonstrated in a large field trial.² Other commercially available PCV2 vaccines contain only one genotype.

2b EFFICACY STUDY

The 23-week duration of immunity that Fosterera Gold PCV MH provides for the 2b genotype was demonstrated in a study.³

Researchers randomly assigned pigs to receive the new vaccine at 3 weeks of age. Another group served as controls and received only the vaccine's *M. hyo* and adjuvant fractions.

After 23 weeks, the researchers challenged pigs with virulent PCV2b. Anyone involved with evaluating the results was “blinded” and did not know which pigs had or had not received the new vaccine, according to Megan Smutzer, a scientist with Zoetis involved with the study.

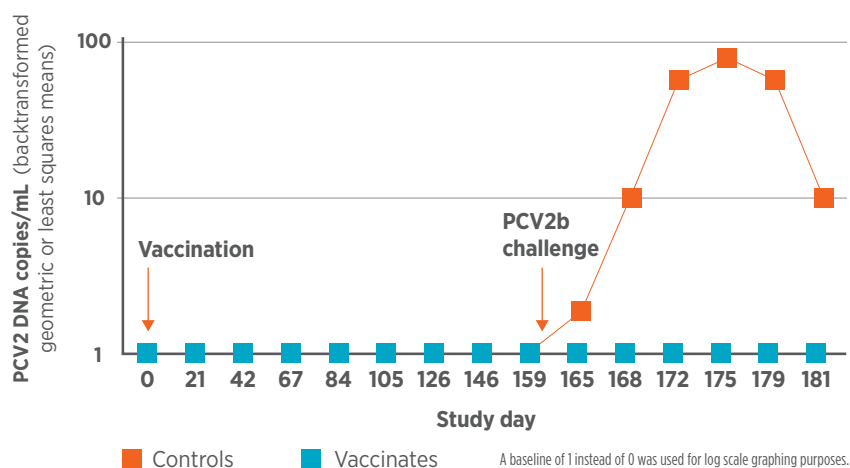
Compared to controls, pigs that received Fosterera Gold PCV MH were significantly protected based on viremia ($p = 0.0056$, Figure 1), fecal shedding ($p < 0.0001$) and PCV2 antigen in lymphoid tissues ($p = 0.0098$), which was determined with immunohistochemistry, Smutzer reported. ➤



“Fostera Gold PCV MH protects against 2a and 2b longer than any other commercially available PCV2 vaccine in the US and Canada.”

MEGAN SMUTZER,
ZOETIS

FIGURE 1_PCV2 viremia in pigs that received Fostera Gold PCV MH versus controls



She noted that the efficacy of the vaccine’s 2a component and 23-week duration of immunity has been demonstrated in controlled studies.^{4,5}

“Fostera Gold PCV MH protects against 2a and 2b longer than any other commercially available PCV2 vaccine in the US and Canada,”^{6,7} Smutzer said.

BROADEST GENOTYPE COVERAGE

Together, the two PCV2 genotypes in Fostera Gold PCV MH should provide better coverage not only against the most prevalent circulating PCV2 genotypes but against evolving PCV2 genotypes, she said.

Smutzer cited results from an analysis made possible with EpiCC, an innovative computer model used to predict immune response and plot the coverage of different PCV2 vaccines against 161 PCV2 field strains.⁸ EpiCC predicted that a vaccine with both PCV2a and PCV2b would offer broader coverage against evolving field strains.

M. HYO EFFICACY STUDY

The duration of immunity for the *M. hyo* component of Fostera Gold PCV MH was already demonstrated in a study with the new vaccine’s predecessor Fostera® PCV MH, she said. “The new vaccine has the same *M. hyo* fraction because it has a reputation in the industry for dependability and efficacy,” the scientist said.



Pigs that received the PCV2 and *M. hyo* fractions of the vaccine had a significantly lower ($p = 0.0316$) mean percentage of lung with lesions...

For the *M. hyo* study, Zoetis researchers randomly assigned 36 pigs to receive Foster PCV MH and 36 to receive only the PCV2 and adjuvant fractions without *M. hyo*.⁹ A third group of eight pigs served as sentinels; they were not vaccinated and were used to make sure none of the pigs in the study were exposed to *M. hyo* before the challenge was administered.

Twenty-three weeks after vaccination, the researchers administered pathogenic *M. hyo* into the lungs via the trachea for 2 consecutive days. As in the 2b efficacy study, personnel evaluating the results were blinded.

Pigs that received the PCV2 and *M. hyo* fractions of the vaccine had a significantly lower ($p = 0.0316$) mean percentage of lung with lesions compared to the group that received only the PCV fraction of the vaccine, Smutzer said.

There were no adverse reactions due to the vaccine nor was there any evidence of *M. hyo* among the sentinel pigs, she added.

“Foster Gold PCV MH has demonstrated efficacy. That, coupled with a duration of immunity that will protect pigs from PCV2 and *M. hyo* through the finishing stage, should go a long way toward combatting two costly diseases of swine,” Smutzer said.

- 1 Personal communication between André Broes, DVM, Biovet, and Josée Daigneault, DVM, Zoetis.
- 2 Galina L, Cowles B, Amodie D, et al. Evaluation of a novel PCV + *M. hyopneumoniae* vaccine in swine experimentally challenged with PCV2d and *M. hyopneumoniae* under commercial conditions. Proceedings of the 49th Annual Meeting of the American Association of Swine Veterinarians (AASV). March 3-6, 2018.
- 3 Company data - Study Report No. B824R-US-15-451.
- 4 Company data - Study Report No. B825R-US-16-667.
- 5 Company data - Study Report No. B822R-US-14-325.
- 6 Circumvent® PCV-M G2, Merck Animal Health. Accessed February 21, 2018.
- 7 Ingelvac CircoFLEX®, Boehringer Ingelheim. Accessed February 21, 2018.
- 8 Bandrick MM, Foss DL, Desai P, et al. EpiCC analysis of T cell epitope overlap among PCV2 vaccine and field strains. Poster I-250. 25th International Pig Veterinary Society Congress (IPVSC). 2018 International PRRS Symposium.
- 9 Company data - Study Report No. B824R-US-15-505.