



An interview with  
Rick Swalla, DVM  
Technical Services Veterinarian  
Zoetis

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## New Foster Gold PCV MH vaccine provides broadest coverage available for PCV2 viruses

**Q:** Zoetis just introduced Foster Gold PCV MH, an inactivated vaccine for porcine circovirus type 2 (PCV2) and *Mycoplasma hyopneumoniae* (*M. hyo*). What's unique about the vaccine?

**RS:** The vaccine contains a second PCV2 genotype — PCV2b — as well as PCV2a. All other commercial PCV2 vaccines contain only PCV2a or only PCV2b.

**Q:** PCV2d is the most prevalent genotype in US herds.<sup>1</sup> Why add PCV2b?

**RS:** Research shows 2b is closely related to 2d, which was once known as “mutant 2b.” Antibodies against PCV2b recognize PCV2d.<sup>2</sup> The most common genotypes after 2d are 2a and 2b.<sup>3</sup> Foster Gold PCV MH has demonstrated protection against all three in studies.<sup>4</sup> Furthermore, our epitope-comparison study showed it has the broadest coverage available against the most common PCV2 genotypes.<sup>5</sup>

**Q:** What specifically did the epitope comparison study show?

**RS:** Using a computer model that enables a T-cell epitope analysis, our scientists plotted the coverage of different vaccines against all known PCV2 genotypes. An epitope is part of an antigen recognized by T cells. The analysis showed a vaccine with both 2a and 2b will provide considerably more coverage against evolving PCV2 field strains than a vaccine with only one genotype.

**Q:** But is there evidence the new vaccine is effective in the field?

**RS:** We conducted a large, commercial trial with more than 880 pigs on a Midwest farm. Pigs were vaccinated with Foster Gold PCV MH or with other commercial PCV2 plus *M. hyo* vaccines, then we challenged them with *M. hyo* and PCV2d. PCV2 viremia, a reflection of virus in blood, was significantly better controlled ( $p < 0.05$ ) with one- and two-dose regimens of Foster Gold PCV MH compared to unvaccinated controls.

**Q:** How is Foster Gold PCV MH administered?

**RS:** The vaccine can be given as a single, 2-ml dose from 3 weeks of age or as a split dose with 1 ml administered as early as 3 days of age followed by 1 ml 3 weeks later,

continued

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but field experience indicates results are better with the two-dose regimen starting at 3 weeks of age.

**Q: Why do you favor vaccination no earlier than 3 weeks of age?**

**RS:** Field experience with PCV2 vaccines tells us results are better if vaccination is initiated at 3 weeks versus 3 days of age, whether you’re using one dose or the split dose. The two-dose regimen helps ensure all pigs get vaccinated.

**Q: Were other tests used to evaluate the vaccine’s efficacy?**

**RS:** Immunohistochemistry (IHC) demonstrated 0% PCV2 in pigs that received two doses of Foster Gold PCV MH, with the first dose initiated at weaning. This was significantly different ( $p < 0.05$ ) compared to PCV2 in 46% of unvaccinated pigs and 21% of pigs that received two, 1-ml doses of Circumvent® PCV-M G2 initiated at 3 days of age.

For IHC, we searched hard for the virus. A pathologist checked tissues from multiple organs. It’s important to note that investigators evaluating all test results did not know which pigs were in each group, so there was no bias.

**Q: Did investigators look for lung lesions?**

**RS:** Yes. Pigs that received Foster Gold PCV MH, regardless of the dosing regimen, had significantly lower ( $p < 0.05$ ) lung lesion scores compared to pigs that received one dose of Ingelvac CircoFLEX® plus MycoFLEX® at weaning. In fact, pigs that received CircoFLEX plus MycoFLEX had numerically higher lung lesion scores than unvaccinated pigs and pigs in all other vaccine groups.

**Q: What about final pig weight?**

**RS:** By study-day 157, pigs that received one weaning dose of Foster Gold PCV MH weighed on average 257 pounds; those that received two doses initiated at weaning weighed an average of 254 pounds. These results were significantly better ( $p < 0.05$ ) compared to an average of 242 pounds for unvaccinated controls and were numerically better than the average of 250 pounds for the Circumvent PCV-M G2 group and 251 pounds for the Ingelvac CircoFLEX plus MycoFLEX group.

**Q: Did you assess vaccine safety?**

**RS:** Yes. More than 300 pigs were vaccinated with Foster Gold PCV MH, and only one had a minor injection-site reaction.

**Q: In practical terms, how will Foster Gold PCV MH help pork producers?**

**RS:** If left uncontrolled, PCV2 causes subclinical disease that eats away at growth, or it can lead to severe wasting and mortality. It’s a component of other important disease problems like Porcine Respiratory Disease Complex. Our field study and research indicate Foster Gold PCV MH will provide the best protection available against PCV2d. That coupled with PCV2a and 2b protection is sure to help producers cut losses and improve profits.

<sup>1</sup> Personal communication between Darin Madson, DVM, PhD, and Rick Swalla, DVM.

<sup>2</sup> Lekcharoensuk P, et al. Epitope mapping of the major capsid protein of type 2 porcine circovirus (PCV2) by using chimeric PCV1 and PCV2. J Virol. 2004 Aug;78(15):8135-8145.

<sup>3</sup> Personal communication between Darin Madson, DVM, PhD, and Rick Swalla, DVM.

<sup>4</sup> Data on file, Study Report No. 16PRGBIO-01-01, Zoetis LLC.

<sup>5</sup> Data on file, Study Report Zoetis W01, EpiCC PCV2 Analysis, Zoetis LLC.

For more information on Foster Gold PCV MH, contact richard.swalla@zoetis.com, or your Zoetis representative.

**toolbox**

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Toolbox is a series of interviews with veterinarians about their experiences managing antimicrobials, vaccines and other tools for swine health. It is produced by the editors of *Pig Health Today*™ on behalf of the US Pork Business of Zoetis.

To contact *Pig Health Today*:  
editor@pighealthtoday.com  
PIGHEALTHTODAY.COM

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To contact Zoetis:  
855.702.1036  
ZOETISUS.COM/PORK

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