

Circumvent™ PCV Vaccine Studies Show Differences Between PCV2 Vaccines

PORCINE CIRCOVIRUS ASSOCIATED DISEASE (PCVAD) HAS severely challenged the pork industry for the last two years, but control is available, through the use of federally licensed vaccines including Intervet's Circumvent™ PCV. This exclusive two-dose PCV2 vaccine has consistently demonstrated control of severe PCVAD under field conditions where others may have fallen short.

"The labor saving convenience of single-dosed vaccines has a common appeal, but seldom have single-dosed inactivated vaccines provided adequate protection under field situations," says Dr. Rich Schlueter, Senior Technical Services Veterinarian for Intervet Inc. "Two-dosed inactivated vaccines have repeatedly shown a superior immune response, along with the protection to follow." Schlueter cites other swine diseases where single-dosed vaccines became en vogue, only to see the industry revert back to two-dosed vaccines to ensure adequate protection.

Intervet licensing studies and field evaluation trial data, generated from tens of millions of doses used to date, confirm that Circumvent PCV provides market leading protection against PCVAD. The studies showed that the vaccine prevented PCV2 challenged pigs from becoming viremic (virus in the blood stream) and from shedding the virus by either fecal or nasal routes of transmission. In nearly all cases, it even prevented pigs from becoming infected with the virus following direct co-infection challenge. This comes as no surprise based on Intervet's unique label claim as an aid in the prevention of viremia and virus shedding caused by Porcine Circovirus, Type 2.

"Intervet used a severe "real world" challenge model in its studies," says Schlueter. "Diagnostic surveys have shown that up to 70 percent or more of circovirus associated disease cases have occurred in conjunction with Porcine Reproductive and Respiratory Syndrome (PRRS) virus. Additionally, Intervet studies showed that pigs were more likely to become viremic and shed circovirus when co-challenged with the PRRS virus, so the co-infection model became our testing standard."

In the studies, young pigs were vaccinated at three and six weeks old, while non-vaccinated cohorts served as controls. Two weeks after the second vaccination, both vaccinated and control pigs were co-challenged with PRRS virus and circovirus. Pigs were monitored weekly for serum titer response and then for viremia and virus shedding following the challenge. Six weeks after the challenge, researchers looked for the virus within the tissues of the pigs.

The study results showed a significant IFA serum titer response following second vaccination and no evidence of PCV2 in the blood (viremia), no evidence of virus shed by the nasal or fecal routes and virtually no evidence of virus presence in most tissues. Nearly 100% of the non-vaccinated challenged controls showed viremia, shedding and presence of the virus in tissues based on PCR.



Serum samples sent to leading swine diagnostic labs show a significant PCV2 antibody response following Circumvent PCV vaccination, which is adjusted for possible baculovirus vector background antibody levels. The titer response in young pigs may be somewhat diminished by increasing levels of maternally derived antibody (MDA) and yet the protective response from two doses of Circumvent PCV appears very little affected by MDA. Excellent IFA titer responses are also being reported and may more truly reflect an immune response.

When normal, healthy pigs are adequately vaccinated with Circumvent PCV, producers appear to be able to significantly reduce the losses due to mortality but potentially of equal importance they often see a significant reduction in morbidity. Reduced morbidity can provide more full-price pigs to sell by reducing lights and culls, as well as, reducing growth set-back and medication costs from secondary diseases and improving the performance of sub-clinically affected pigs. This effect was shown in pigs challenged by either of the PCV type 2 strains found in North America.

All of these benefits help producers fight a devastating disease while providing a hefty return on their investment (ROI).

"The single dose products can be more prone to unexpected failures or incomplete protection than with Circumvent PCV," says Schlueter. "Additionally, a number of customers have reported field results following the use of Circumvent PCV showing finisher mortality has fallen well below their historical herd average. That gives evidence that a low incidence of PCVAD has been an issue long before the recent high mortality epidemic."

"The Circumvent PCV two-dose regimen provides improved confidence that the protection and ROI expected will be consistently delivered," says Schlueter. "ROI from the cost of Circumvent PCV vaccinations have ranged from 200 percent to 600 percent in moderately-affected herds and well beyond that in severely-affected populations. It's an investment in total performance worth making".