

MEDIA RELEASE**Study Dispels Common Myth About Inactivated Vaccines**

- *Scientific journal report shows old misconceptions don't apply to modern products*

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A recent study published in the scientific journal *Veterinary Therapeutics* provides new evidence that a long-standing perception about inactivated vaccines has become outdated and inaccurate. The study showed that Vira Shield® 6—an inactivated vaccine—produced complete and long-lasting immunity against bovine viral diarrhea virus by stimulating both branches of the bovine immune system.¹

Results of the study challenge a long-held belief among many cattle industry professionals that was founded long before some of the current inactivated vaccines, including Vira Shield 6, were even on the market.

“The old belief was that inactivated vaccines did not provide as strong a cell-mediated immune response as modified-lives,” said Elliot Stevens, MS, DVM, Ph.D, a veterinary medicine research specialist with Rural Technologies, Inc. in Brookings, S.D. “That may have been true 25 years ago, but it’s woefully outdated and inaccurate today.”

To provide the most effective immune response against viral diseases like BVD, IBR and BRSV a vaccine needs to produce two distinct types of immunity—humoral and cell-mediated. The study published in *Veterinary Therapeutics* demonstrates that Vira Shield 6, the leading inactivated cattle vaccine on the market today, provides both primary types of immunity.

Advances Driven by Human Health Research

Advances in viral immunology and how vaccines work to prevent common cattle diseases like BVD often start with human medicine. Over the last two decades much of the research surrounding human vaccines has focused on inactivated, or non-infectious products, because they are widely recognized as being safer than modified-lives. New, improved technologies and adjuvants used in human inactivated vaccines are often quickly applied to animal vaccines.

“In the medical research and scientific communities, the knowledge base on immunology is doubling every three to five years,” said Stevens. “That’s really an incredible pace if you stop and think about it. We’re light years ahead of where we were as recently as the 1990s and the vaccines we’re using today are much more sophisticated.”

What hasn’t kept pace with advances in viral immunology, however, is communication with producers to explain how modern vaccines have evolved to become even better at preventing cattle diseases. Consequently, some of these long-held misconceptions still linger, despite recent evidence that proves they are no longer accurate.

“I think the perception that modified-live vaccines provide a better immune response is still out there because that’s what we’ve been told for so long,” said Carlos Bonnot, DVM, owner of Wharton Veterinary Clinic. “But studies support it’s obviously not true any longer.”

The study published in *Veterinary Therapeutics* was sponsored by Novartis Animal Health. Doug Scholz, DVM, director of veterinary services, Novartis Animal Health, said the study supports previous research into inactivated vaccines and cell-mediated immunity.

“The results of this study are consistent with other research that clearly shows properly adjuvanted, inactivated vaccines—and specifically Vira Shield 6—provide a highly effective cell-mediated immune response,” he said.

“In fact, a previous study conducted at Iowa State University² found that an adjuvanted, inactivated vaccine provided a much stronger cell-mediated immune response to BRSV than the modified-live vaccine it was compared to,” added Scholz.

More, Safer Choices for Producers

As more producers have become aware the old dogma surrounding inactivated vaccines isn’t always correct, they have taken advantage of added safety benefits these products offer. Scholz said that abortions have become an increasing threat for pregnant cows and producers can reduce this risk by using inactivated vaccines in breeding animals.

“Veterinary diagnosticians have seen a significant increase in the number of abortions resulting from IBR and BVD in the last five years,” said Scholz. “And many of those cases have been linked back to improper use of modified-live vaccines.”

The rapid increase in abortion rates has raised serious concern at veterinary diagnostic laboratories. In the August 1, 2010 edition of *Journal of the American Veterinary Medical Association*, a letter to the editor from two diagnosticians representing major universities suggested that some modified-live vaccines designed for pregnant cattle should be withdrawn from the market.

For his part, Bonnot recommends using an inactivated vaccine for pregnant cattle. “We’ve been using Vira Shield products for at least five years now and have seen a significant increase in reproductive efficiency,” said Bonnot. “The improvement has been dramatic in some herds. It’s safe, cost-effective and provides immunity against the major bacterial and viral reproductive diseases in our area.”

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References

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- 2 Sandbulte MR, Roth JA. Priming of multiple T-cell subsets by modified-live and inactivated bovine respiratory syncytial virus vaccines. *Veterinary Immunology and Immunopathology* 2003; 95:123-133.

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