

Research demonstrates that Arsenal 4.1 may not cause “sweats” that often occur after vaccinating with a modified live vaccine.<sup>5</sup>

## The “no sweat” solution to BVD

Arsenal 4.1 protects your cattle against NCP – the biotype that causes more than 90 percent of BVD outbreaks, and 100 percent of PI calves.

To solve your BVD problems:

- Test and remove any PI cattle
- Use Arsenal 4.1 for BVD Type 1 and Type 2 protection
- Install a biosecurity system to keep new PI calves out and minimize contact with infected animals

Arsenal 4.1 can be used on open cows and heifers 30 days prior to breeding; on calves as young as 2 weeks of age (if nursing, make sure cows are open); weaned calves; and cattle and calves being received into calf ranch, stocker and feedlot operations.



1. Chase CL. *Vet Clin Food Animal*. 2004;20:95-114.

2. Fulton RW. Bovine viral diarrhoea virus antigenic diversity: impact on disease and vaccination programmes. *Biologicals*. 2003;31:89-95.

3. Lambot et al. Characterization of the immune response of cattle against noncytopathic and cytopathic biotypes of bovine viral diarrhoea virus. *J Gen Virol*. 1997;78:1041-1047.

4. Data on file, Novartis Animal Health US, Inc.

5. Data on file, Novartis Animal Health US, Inc.

6. Brock K., et al. Protection against Fetal Infection with Either Bovine Viral Diarrhoea Virus Type 1 or Type 2 Using a Noncytopathic Type 1 Modified-Live Virus Vaccine. *Vet Ther*. 2006;27-34.

**Protection against NCP – the cause of greater than 90 percent of BVD outbreaks.<sup>1</sup>**

**No sweat.**

**Arsenal<sup>®</sup> 4.1**

## Think NCP BVD isn't a problem? **Think again.**

The noncytopathic (NCP) biotype of BVD:

- Causes more than 90 percent of all BVD outbreaks
- Is the leading cause of BVD-linked respiratory disease<sup>2</sup>
- Always is the cause of Persistently Infected (PI) calves

PI animals can cause a whole new set of problems. They can quickly expose your healthy calves to NCP BVD, especially at the sale barn or feedlot.

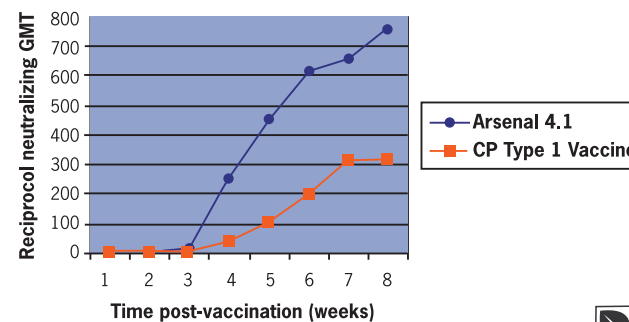
Yet few leading vaccines contain the NCP biotype. Fortunately, there's a "no sweat" solution to NCP BVD: Arsenal<sup>®</sup> 4.1 from Novartis Animal Health US, Inc.



## Arsenal 4.1 controls NCP BVD **No sweat.**

Arsenal 4.1 protects against Type 1 and Type 2 BVD using the biotype implicated in over 90 percent of all BVD outbreaks.

- With Arsenal 4.1, you get: NCP in the bottle, for a significantly higher, more rapid antibody response<sup>3,4</sup>
- Prevention of BVD-caused mortality – without IBR-related sweats<sup>5</sup>
- One-dose, convenient protection against Type 1 and Type 2 BVD, BRSV, IBR and PI<sub>3</sub>
- University research demonstrating protection against both Type 1 and Type 2 BVD Persistent Infections<sup>6</sup>



This study shows larger, faster antibody response with Arsenal 4.1 vs. a vaccine containing only cytopathic (CP) BVD Type 1.