A LIVE INFECTIOUS BOVINE RHINOTRACHEITIS (IBR) MARKER VACCINE APPLIED SIMULTANEOUSLY WITH AN INACTIVATED BOVINE VIRAL DIARRHEA (BVD) VACCINE PROTECTS AGAINST CHALLENGE INFECTION

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Introduction: The target animals and vaccination regimes for vaccines against the infectious bovine rhinotracheitis (IBR) and the bovine viral diarrhea (BVD) are very similar. Therefore, it is desirable to combine them in order to simplify animal handling on the farm.

Objectives: A study was performed to determine whether use of an inactivated BVD vaccine as solvent for a live IBR marker vaccine has an effect on the efficacy of the IBR vaccine.

Materials and methods: Thirty calves of approximately three to six months old and free of antibodies against bovine herpesvirus type 1 (BoHV-1) and BVDV at the time of the first inoculation were used. All vaccinations were administered via the intramuscular route. Ten calves were vaccinated once with a live IBR marker vaccine¹ in the right side of the neck (group 1), the second group of ten calves was vaccinated once the live IBR marker dissolved in the inactivated BVD vaccine² and the remaining ten calves were left unvaccinated.

Three weeks after the vaccination, the animals were infected intranasally with a virulent BHV-1 strain. Clinical signs were recorded and challenge virus excretion with nasal discharge was measured. Moreover the antibody response after vaccination and challenge was determined.

Results: The unvaccinated animals remained seronegative until challenge but developed antibodies within two weeks after challenge. By contrast, moderate levels of BoHV-1 specific antibodies were measured after vaccination in both vaccinated groups and titers increased after challenge. Unvaccinated animals showed clinical signs of respiratory disease including increase of body temperatures. Both vaccination schedules significantly reduced nasal discharge. Also challenge virus excretion was significantly reduced after vaccination with the IBR marker vaccine as compared to the unvaccinated control animals. For all parameters investigated there was no difference in the efficacy of the IBR marker vaccine dissolved in diluent as compared to using the inactivated BVD vaccine as solvent.

Conclusions: From the results obtained it can be concluded that the Bovilis BVD vaccine can be used as a solvent for the Bovilis IBR marker live vaccine without a negative effect on the efficacy of the live IBR marker vaccine.

¹ Bovilis IBR marker live (Intervet Schering-Plough Animal Health)
² Bovilis BVD (Intervet Schering-Plough Animal Health)

Keywords: IBR, BVD, vaccination program