Bovine Viral Diarrhea (BVD) Update

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Recently, new information on the occurrence of bovine viral diarrhea (BVD) caused by BVD type 2 virus has become available (19-21). A report on the 1993-95 outbreaks of severe acute BVD in Ontario caused by a virulent type 2 virus have been published (20). The outbreaks involved high economic losses in dairy, beef, and veal herds. Clinical signs included fever, pneumonia, diarrhea, and sudden death in cattle of all ages, as well as abortions in cows. The virulence of the type 2 strains was confirmed by infecting cattle with these viruses and reproducing the same severe acute disease (22). Further studies covering a period of 10 years in Ontario and the United States showed that type 2 BVD isolates are common in beef and dairy cattle; however, rarely do they cause severe acute disease (19, 20). Thus, infection of cattle with type 2 BVD virus should not be automatically associated with the occurrence of severe acute disease.

BVD virus can be typed as type 1 or type 2 based on antigenic differences using type-specific monoclonal antibodies as diagnostic reagents or by nucleic acid sequence differences using PCR analysis. Most laboratories do not type BVD viral isolates routinely.

Antigenic differences between type 1 and type 2 BVD viruses have been recognized by cattle producers and vaccine companies. This has resulted in the development of type 2 BVD viral vaccines. Killed type 2 BVD viral vaccines are now commercially available in Canada, and modified-live type 2 BVD virus vaccines are in the process of being licensed. New technology involves the development of BVD viral vaccines based on immunization with DNA.

