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Cooperative Extension South Dakota State University

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BVD—Bovine Virus Diarrhea (Mucosal Disease)

Cooperative Extension Service of South Dakota State University and U. S. Department of Agriculture

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Bovine Virus Diarrhea

Virus diarrhea of cattle was first recognized in New York in dairy cattle in 1946. In 1952 a similar disease, but with a high death rate of affected animals, was seen in Iowa and was called "mucosal disease." It has since been determined that strains of virus causing diarrhea and mucosal disease are closely related. Now bovine virus diarrhea (BVD) is the generally accepted name for this disease which can appear in various forms.

Occurrence. Reports and tests have shown BVD to occur in most parts of the United States and in many foreign countries. Surveys conducted by serum tests indicate that as many as 50% of U.S. cattle have had exposure to BVD virus. Most of the cases of BVD are seen in winter and spring months. It may affect cattle of any age but most often is seen in animals 6 to 24 months old. The disease is common in feedlot cattle.

Transmission. BVD spreads rapidly through a group of cattle. Infection occurs by mouth, probably by eating food contaminated with manure from infected animals. Introduction of the disease into a herd can sometimes be traced to addition of new cattle. In other herds, BVD has occurred without new additions. It is strongly suspected that infection can be readily carried from one herd to another. Some cattle may carry and spread the disease while not becoming ill themselves.

Symptoms. As indicated by the high percent of cattle which show evidence of exposure to BVD virus, most cattle experience only a mild or inapparent infection. When symptoms do appear, high morbidity and low mortality may occur in some herds, while in other herds, only a few animals become sick, but most of the affected ones die. The reason for this variance is not known.

In milder forms of BVD, symptoms may include fever, loss of appetite, coughing, nasal discharge, dry muzzle with perhaps some peeling, and diarrhea lasting for several days. Infection may also result in abortion.

A chronic form sometimes follows a mild outbreak. In these situations, continued diarrhea, lameness, rough hair coat, weight loss, and general unthriftiness are common symptoms.

The more severe form is often called "mucosal disease." There is profuse diarrhea that does not respond to treatment. Weight loss is rapid. Lack of appetite, slobbering, eye discharge, crusted muzzle are common symptoms. Lameness occurs in some cases. Ulcerations are often found in the membranes of the mouth. Most of these severely affected animals die within a week to 10 days.

Diagnosis. The diagnosis of BVD is usually based on symptoms and post mortem findings. Either isolation and identification of BVD virus or serum tests may be used in confirming a diagnosis. Your veterinarian knows how to collect, preserve, and transmit samples to a laboratory for testing. Diagnostic procedures are slow and require special laboratory techniques. By symptoms alone, BVD is sometimes confused with infectious bovine rhinotracheitis (IBR) or other respiratory and digestive tract diseases.
Prevention and Control. Treatment of sick animals has little effect on the course of BVD. Supportive treatment is essential. Reduction of feed intake with change to native hay, oats, and bran is recommended. It is best to return to a normal ration gradually. A “live” virus vaccine prepared from a modified BVD virus is available for preventive vaccination. As care is essential in the use of such “live” products, your veterinarian should be consulted.