

Vet Call

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Combat abortions due to IBR and BVD

Determining the cause of abortion in cattle is often difficult and frustrating. Because more than one factor is involved in many abortions, diagnosis is not a simple problem, and a thorough investigation is required to have a reasonable chance of success.

The first step in the investigation is to establish the pattern of losses for a herd by examining as many calves by necropsy as possible, preferably over an extended period of time. The veterinarian and producer both should keep a written record of abortions or early calf deaths, recording the number of deaths or abortions and the cause of death as nearly as can be determined for each calving season.

A complete history backed by accurate records allows veterinarians to identify previous problems, the vaccination program, nutrition during pregnancy, herd exposure to other animals, and management practices that affect fetus or calf survivability.

By examining records, your veterinarian can begin to get an accurate account of the stage of pregnancy in which the abortions are occurring, the age of dam that is affected and any seasonal patterns. Important information to consider includes the vaccination history, movement of cattle into the herd, recent diseases or toxin exposures, access to plants that can cause abortions, whether breeding is by artificial insemination (AI) or natural service, and type of feed and pasture.

While the history is important in helping to direct the diagnostic effort, it is also important not to eliminate a disease from the list of possibilities because of history alone. For example, a history of vaccination against a particular disease does not remove

it from the list because disease may cause abortion in spite of previous vaccination.

Necropsy of as many aborted fetuses and calves as possible allows the best opportunity to isolate a cause for abortions. The fetus and the placenta should be sent to the nearest diagnostic laboratory; or the local veterinarian should perform the most complete necropsy possible, then cooperate with a diagnostic lab for further testing. The diagnostic laboratory's success rate of identifying an infectious cause of abortion is highest when the fetus, placenta, maternal serum, serum from 10 in-contact peers, maternal urine and vaginal discharge (if present) all are examined.

Virus alert

Two important viral causes of abortion are infectious bovine rhinotracheitis (IBR) and bovine viral diarrhea (BVD).

IBR is a herpes virus and, like similar viruses in humans and other animals, carriers with latent (hidden) infections are common sources of infection. IBR usually invades the dam through the respiratory tract and is a major cause of bovine abortion in many parts of the United States. Abortions due to IBR typically occur after four months of pregnancy. Often, no other signs of infection except the abortion are noted in infected cows. The source of infection is often weaning-age calves that show symptoms of respiratory disease or watery eyes. IBR as a cause of abortion sometimes can be confirmed by a diagnostic laboratory's examination of fetal tissues.

BVD is a sporadic cause of abortion. The rate usually is low, but it may be moderate to high depending on the number of susceptible cows, the prevailing stage of pregnancy in the herd and the virus's strength.

BVD invades a pregnant cow through either the respiratory tract or the mouth. Most BVD-induced abortions occur in the first trimester, but they can occur later in pregnancy. In addition to abortion, BVD can cause stillbirths, birth defects or weak calves that don't live long.

The source of BVD can be other cows, yearlings, calves with the respiratory form of the disease or a calf that was infected when it was a fetus in the first half of pregnancy. These calves are born persistently infected (PI) with the virus and shed it throughout their lifetime.

Because BVD will suppress the immune response in cows, some researchers contend that infection also may cause abortions by allowing a dam to be infected by lowly pathogenic causes of abortion that normally would be cleared from the body without causing harm.

Vaccinate — again

To decrease the risk of pregnancy loss from these viral diseases, nonpregnant heifers should be given modified-live-virus (MLV) vaccines two or more times between weaning and six weeks before breeding.

Although MLV vaccines for IBR and BVD do not likely require a booster to induce a protective response, it is recommended that vaccinations be repeated two or more times because we don't know when maternal antibody interference with active immunization wanes or if nutritional or host factors interfering with immunization are present. Multiple vaccinations allow the maximum number of heifers to develop active immunity. And adult cows may benefit from annual IBR and BVD booster immunizations.

Testing all replacement animals to determine if they are PI with the BVD virus can be done with either a blood or a tissue sample, and that is an important component of controlling BVD on many farms.

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