Texas Dairy Matters

Higher Education Supporting the Industry

BVD: FERTILITY THIEF

Ellen R. Jordan, Ph.D.
Extension Dairy Specialist
Department of Animal Science
Texas AgriLife Extension Service
The Texas A&M University System

Most cattle today are well-vaccinated against many common diseases, including bovine viral diarrhea or BVD. Yet when cattle are living under less-than-ideal situations due to heat stress, overcrowding or poor nutrition; even the best vaccinations programs may result in incomplete protection for some animals.

Calves less than 3 months of age usually don't exhibit symptoms of BVD, provided their dams were properly immunized and they received adequate colostrum. In older animals, disease symptoms vary, depending on whether the animals have been vaccinated or not, the strain of the virus, and the amount of stress the animal is under when exposed. In acute cases, animals are very sick with bloody diarrhea and high fever (105-107 degrees F). They may go off feed and sometimes develop pneumonia. Some animals die, while others recover within one to two weeks.

Pregnant animals may abort two to four weeks after exposure, particularly when they are in the second trimester. Pregnant animals exposed in the first trimester may suffer from early embryonic mortality. In addition, reduced conception rates may occur in open animals.

Some cows, when exposed at less than 125 days of gestation, do not abort their calves. Instead they deliver a persistently infected (PI) carrier calf. These calves serve as reservoirs for the virus throughout their lives. They constantly shed the virus, exposing other animals in the herd. If the herd is not under a great deal of stress and is well vaccinated, the only symptoms may be abortions, infertility or embryonic mortality. Thus these carrier animals become profit thieves, as more cows are culled prematurely for reproductive failure.

The most common ways for BVD to enter a dairy include:

- Purchasing animals with an unknown vaccination history.
- Introducing purchased animals without an isolation period.
- Short-changing a vaccination program.
- Failing to test new purchases for PI BVD status.
- Using natural service sires that have an active case of BVD or that are PI BVD. (Bull studs check for BVD status, so AI removes this risk.)

To prevent the introduction of BVD into a herd:

- Maintain a closed herd when possible.
- Develop and implement a routine vaccination program with your veterinarian to minimize the risk to exposure.
- When purchasing or moving cattle, administer additional vaccinations as necessary.
- Test all purchased animals for PI BVD status prior to moving them. Prohibit carriers from entering the farm.
- Use your own truck and trailer to move cattle when feasible. Ensure that commercial haulers disinfect their equipment prior to hauling your cattle.
- Isolate new arrivals for at least two to three weeks.

BVD is usually diagnosed based on clinical signs followed by necropsy findings and laboratory testing. If infertility and abortion are the only symptoms, the diagnosis is more difficult and relies on serum samples and the aborted fetus. If you've had a BVD outbreak despite a sound vaccination program, your herd may be the victim of a PI BVD animal. You'll need to work with your veterinarian to develop a testing scheme to identify the PI animal.

Once you've identified and disposed of any PI animals, the next step is to prevent any new carriers from entering your herd. A prevention program is built on the knowledge that the only time an animal can develop a persistent infection is *in utero* during the first 125 days of gestation. This can be accomplished by:

- Testing all new purchases.
- Testing all calves that are born to ensure they weren't exposed *in utero*.
- Implementing the prevention procedures outlined previously.

Summer heat stress causes enough fertility problems here in Texas. Take an active approach to preventing BVD from robbing your herd's reproductive performance.