



Vet Call

► by **Bob Larson**, Kansas State University

Introducing a BVD-management tool

Bovine viral diarrhea virus (BVD) infection is responsible for a variety of economically important disease syndromes in beef herds. The economic losses from BVD infection in cow herds will vary based on herd immunity and stage of gestation at the time pregnant cows are exposed to the virus, the virulence of the BVD strain and other factors.

Persistent problem

The virus is known to suppress the immune system, contribute to the risk of pneumonia and cause pregnancy losses. Infection of the fetus with BVD virus during pregnancy can lead to abortion, birth defects or the birth of persistently infected (PI) calves. PI cattle can result when susceptible pregnant cows are exposed to BVD virus during the first half of pregnancy.

Many times infected fetuses are aborted, but if a PI fetus survives to term, it will always have a tremendous amount of the virus in its body and cannot mount an immune response to clear the virus. A PI animal will secrete BVD virus throughout its life. In contrast, animals that become infected after birth secrete the virus and are contagious for only a few days to two weeks.

PI calves constitute the main source of BVD virus spread within the herd and to other herds of cattle. Cattle persistently infected with BVD virus can be identified by a number of laboratory tests. Based on a recent USDA study, only 8.8% of U.S. cow-calf ranches had one or more PI animals identified; this means that one in every 11-12 herds have PI calves, and most ranchers with infected herds are not aware of the presence of PI calves.

Vaccination programs can provide fairly good protection against BVD-induced

disease when the exposure is from non-PI animals that shed the virus for a short period of time. Vaccination programs offer some protection against BVD-induced disease when the exposure is from PI animals, but this protection may be incomplete because of the tremendous amount of virus excreted by PI animals. Vaccination programs are an important component in BVD control, but will only offer a high level of protection if herd contact with PI animals is eliminated.

The cattle industry has made significant efforts in recent years to control BVD. Our current knowledge of the virus, the availability of effective vaccines, and the improvement in diagnostic tools have made the control of BVD feasible.

A helpful tool

BVD CONSULT (Collaborative, Online, Novel, Science-based, User-friendly, Learning Tool) is an Internet-based tool designed to aid in the development of BVD control programs for cow-calf herds. It is the result of efforts by scientists from several universities from around the country (Kansas State University, the University of Nebraska, Mississippi State University and Auburn University), and was funded by an educational grant from Zoetis Animal Health. BVD CONSULT effectively draws available BVD research into a user-friendly and

organized format to develop BVD prevention and control programs for individual herds that emphasizes key management decisions that impact the success of these programs.

The tool provides veterinarians and cow-calf producers an opportunity to develop BVD prevention and control programs for any cow-calf herd. For herds that currently have PI cattle present, the tool will help to create a plan to identify and remove the PI cattle and to establish a strategy to reduce the likelihood of the herd becoming infected again.

For herds that are currently BVD-free, it can be used by a producer and the herd veterinarian to decide how to minimize the likelihood of BVD virus entering the herd and to reduce the impact if the herd is exposed.

BVD CONSULT is set up as a series of questions with responses. It was designed to mimic a conversation between a veterinarian and a producer who is concerned about BVD. The tool works through a decision tree to provide recommendations that are specific to individual operations. It asks if the producer is willing and able to perform specific management practices that will aid in prevention or control and eradication of BVD. More information is available in the tool to help with the decision-making process.

After clicking on "yes" or "no" to each question, an appropriate response is given based on the choices that have been made, followed by another question. The questions that are asked, and the responses given, vary depending on the previous answers. There are 6 to 10 questions in total, depending on the choices made. A printable report is available at the end of the process, which records the choices that were made and the responses that were given. The final result is a set of recommendations that the rancher and herd veterinarian have designed to meet the specific needs of a particular cow-calf herd.

BVD CONSULT, as well as many other BVD-management resources, can be found at www.BVDinfo.org.

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