

BVD: It's Time to Get Serious

Producers and veterinarians shared experiences at the Cattle Industry Annual Convention.

Story & photos by **Troy Smith**

During recent years, bovine viral diarrhea (BVD) has been a popular subject of discussion at beef producer meetings. The disease has received increasingly frequent coverage among livestock publications. But despite the availability of new information about the prevalence and economic impact of BVD, many cow-calf producers aren't taking it seriously.

Maybe they view BVD as strictly a feedlot malady. Perhaps they realize that BVD can affect the health and performance of breeding herds, but assume their vaccination program provides all the protection needed. Whatever the reasons, Oklahoma veterinarian Bob Smith and other BVD-savvy colleagues think it's time to get serious about controlling this costly disease.

"We know more than ever about BVD, and we're learning more every year," Smith said, noting how the disease causes abortion, calf deaths and inhibited conception in breeding females, as well as affecting the health and performance of stocker and feedlot cattle. "We need a coordinated approach to provide continuing education for veterinarians, as well as more awareness among producers."

Smith, chairman of the National Cattlemen's Beef Association (NCBA) Cattle Health and Well-being Committee, served as moderator for a producer-oriented session of the BVD symposium held in conjunction with the 2006 Cattle Industry Annual Convention. Program speakers, including producers and veterinarians, shared experiences in implementing planned production-level control of BVD.

Control strategies

Speakers emphasized that persistently infected (PI) cattle are the primary source of BVD infection. Having contracted the virus from their dams during gestation, PI calves that are carried to term and survive remain infected throughout their lifetime.

PI animals may appear normal, but they continuously shed high amounts of virus through nasal discharge, saliva, milk, semen, urine and feces. They spread infection to herd mates and through over-the-fence contact with cattle in neighboring pens or



► For Lucy Rechel's seedstock development program, a biosecurity program, including testing and isolation, resulted in a marked reduction in sickness and treatment costs.

pastures. In addition, a PI female will always produce a PI calf.

Research suggests the prevalence of PI cattle at up to 2% of the U.S. beef cattle population, and about 4% of herds include at least one PI animal. The numbers seem relatively low to many producers, until reality hits home.

Such was the case with Jack Turnell, who has a Colorado cow-calf operation and feeds his cattle through commercial feedyards. About four years ago, BVD surfaced among his cattle on feed. Through a testing program, several PI cows were identified and eliminated from the herd.

"We think the herd is clean now, but we vaccinate and continue some testing to maintain surveillance," Turnell said.

Custom developer's experience

In Nevada, Lucy Rechel's family runs a custom breeding stock development operation, handling mostly purebred replacement heifers and bulls. Rechel suspected that some of the operation's health problems were due to BVD spread by PI animals. She implemented PI testing as a prerequisite for animals brought to the facility.

Furthermore, all animals were to be isolated from known PI animals for 30 days

prior to delivery. All 3,000 animals already on-site were tested, with six PI animals identified.

"Each of those animals came from a lot in which we had a high level of sickness, strengthening my belief that we were doing something that would benefit our customers. Two of those animals were purebred bulls that would have been sold to commercial ranchers," Rechel said.

The biosecurity program, including testing and isolation, resulted in a marked reduction in sickness and treatment costs. However, a year and a half after implementing the program, a customer sent a set of bulls and a group of heifers, including one purchased heifer for which test results had not returned from the lab. Ultimately, the test showed her to be persistently infected.

"The results were predictable," Rechel offered, noting how treatment costs for that pen of heifers were historically high for that customer's cattle. The entire pen was removed to a remote site, but the customer's bulls had also been exposed to the PI heifer during original transportation to the facility. A substantial wave of sickness struck the bull pen, causing an extraordinary increase in treatment costs. To a lesser extent, sickness went through pens located on either side of the bulls' pen.



► Patsy Houghton, manager of Heartland Cattle Co., stresses vigorous sanitation measures and isolation of new cattle, as well as testing and vaccination.



“Overall, our health has improved dramatically since implementing the program,” Rechel stated. “We still have a few [customers’] herds in which we have very high morbidity rates. About half of these are herds in which we found a PI animal sometime during the last three years.”

Low prevalence, high cost

Patsy Houghton, manager of Heartland Cattle Co., also believes in the importance of a BVD biosecurity program for the Nebraska-based heifer development facility. She stresses vigorous sanitation measures and isolation of new cattle, as well as testing and vaccination.

While the prevalence of BVD may seem low, the disease exacts a high cost. Houghton cited research estimating average costs at \$10 to \$24 per cow in beef herds.

“Purchasing source-verified replacement

animals, administering proper vaccinations and testing require extra expense and a lot more work,” Houghton admitted. “But I look at it as an investment in the long-term health of your business.”

Statewide efforts

Colorado State University veterinarian James Kennedy says the university and Colorado state animal health authorities have developed a statewide, voluntary BVD control program. At least four other states are attempting to create similar programs. In each case, the goal is to establish consistency in implementing prescribed control measures.

“Once a consistent program with third-party verification is developed, the producer can realize a financial benefit through offering his livestock for sale, certifying the animals have met a minimum

set of requirements, thereby allowing the purchaser to better predict the risk of owning cattle,” Kennedy explained.

Testing protocols are becoming more cost-effective, too, Kennedy added, which should be an added incentive for producers to implement the four steps to effective BVD control:

- ▶ Initially test the entire herd for BVD persistent infections.
- ▶ Vaccinate cattle annually with modified-live virus (MLV) vaccine.
- ▶ Test all cattle introduced to the herd.
- ▶ Test each year’s calf crop.



What do you do with PI calves?

Calves born persistently infected (PI) with bovine viral diarrhea (BVD) virus have been identified as a leading cause of disease spread. Researchers speaking at the scientific session of the BVD 2006 Scientific Conference disagreed as to the best way to handle PI animals once identified.

PI calves result when pregnant cows are exposed to a noncytotoxic type of the disease at about 1½-4 months of gestation — before the fetus has developed a mature immune system. These calves shed an enormous amount of the virus into the environment and serve as a means of infection for other animals in the herd.

Daniel Thomson, of Kansas State University’s College of Veterinary Medicine, provided four options for handling confirmed PI animals: (1) shoot; (2) salvage harvest; (3) seclude; or (4) sell.

While many others on the program encouraged immediate euthanasia, Thomson said it was not economically feasible without an indemnity program. BVD poses no human health risk, so there is no reason to be concerned that the animals enter the food chain.

Thomson said PI animals do need to be segregated to prevent further disease transmission. He recommended immediate removal of PI animals from susceptible herds, whether at the cow-calf, stocker or feedlot level.

“Railing cattle to local packers or regional salvage slaughter facilities is sound biologically and more economical than euthanasia,” Thomson said.

Roughly 50% of PI calves on feed will die or become chronically ill before finishing, he noted, encouraging harvest by the time the cattle reach 850 pounds (lb.).

If quarantine facilities are available with adequate biosecurity, secluding animals from the rest of the herd while trying to take them to a more marketable end point may be an option, Thomson said. He described a “restart program” at the feedlot level that allowed diseased animals to be removed from the general population and finished in isolation.

The last option, selling, Thomson discouraged.

“Our industry has a moral and ethical obligation to not sell known diseased or damaged animals to other parties,” he explained. If someone feels selling a PI animal is the only viable option, full disclosure must be admitted.

While a discouraged option, Thomson said it was necessary to allow selling so as not to discourage testing.

In his proceedings paper, Thomson pointed out that the Academy of Veterinary Consultants has a position statement calling for a national eradication program for BVD.

“Today we are asking producers to remove animals from their herds for lesser value than what they could get from just selling the PI cattle through marketing channels,” he said. “We need an eradication program that pays indemnity to producers with infected herds for the betterment of our national herd. This in turn will stimulate full cooperation, and disclosure will occur.”

Thomson recommended a permanent form of identification (ID) for PI animals and a system similar to the brucellosis (Bang’s disease) quarantine and harvest program.

—by Shauna Rose Hermel