



BREATHE EASY

The fight against BRD needs a holistic approach.

Story & photos by Kasey Brown, associate editor

Instances of bovine respiratory disease (BRD) continue to go up despite more drugs being added to the fight. What gives? It's easy to think of BRD as a feedyard issue, but it starts long before those calves get to the feedbunk.

"When producers are struggling with bovine respiratory disease, one of the first questions I get asked is, 'Hey, Doc, what new antibiotic is working these days?'" says Daniel Cummings, veterinarian with Boehringer Ingelheim. "While antibiotics are important, they are just one part of the big picture."

BRD is the most common and economically important disease the cattle industry has to deal with. That big picture involves steps throughout the whole life cycle, and mitigation needs to start early. A calf will never reach its

genetic potential if it gets sick.

On the ranch, it occurs on average in 10.5% of calves between 60 and 120 days old, says Doug Ensley, Boehringer Ingelheim technical marketing manager and veterinarian. Preweaning death loss due to BRD can be as high as 1.4%, with 31.4% of that occurring in calves 3 weeks of age and older.

In another study, a heifer who has had BRD during the first three months of life will calve three months later than heifers without BRD, thus affecting the size, weight and timing of subsequent calves for the rest of her life, he adds.

Ensley says, "Preventative animal health management practices are a solid, proven path to antibiotic stewardship."

Preconditioning

Preconditioning means setting up the calf for success while still on the ranch, and it benefits both the ranch owner and feedyards. Tom Fanning, manager of Buffalo Feeders, Buffalo, Okla., says preconditioned calves are high on a feedyard manager's wish list.

Dale Moore, of Cattleman's Choice Feedyard, Gage, Okla., says a calf's genetics can't change once they get to the feedyard; however, the calf's health status absolutely changes that calf's success potential.

Both Fanning and Moore say they want calves that have been weaned for 60 days before

transport, especially in the fall, with a minimum of 45 days. They want calves that have received their preweaning vaccinations. Those calves' dams should have received their vaccinations and have been on a solid nutrition and mineral program.

Ensley adds preconditioning also means bull calves are castrated as early as possible, given vaccinations at times without stress — preferably before weaning, and are weaned 45-60 days before shipping. These steps help their immune systems stay strong during stressful times later in life.

Nutrition

"Any time the immune system is taxed, energy and nutrition are taken from the body to help the immune system function," Ensley says.

Nutrition is paramount to setting up a strong immune

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system, and no other meal sets the stage like the first one — colostrum. Calves with inadequate passive immunity are 5.4 times more likely to die prior to weaning; 6.4 times more likely to be sick in the first 28 days of life; 3.2 times more likely to be sick any time prior to weaning; and 3 times more likely to be treated for BRD in the feedyard.

Moore and Fanning both say some of the most important information they can get is the health management of the arriving calves' home herd.

We all know the saying, “If mama ain’t happy, ain’t nobody happy,” but, “If mama ain’t healthy, ain’t nobody healthy,” could be applicable, too. As more research on fetal, or developmental, programming emerges, it is evident that challenges to the cow’s system during pregnancy affect the developing fetus, Ensley says.

Calves born to health-challenged or nutritionally compromised cows can be expected to have similar and long-lasting challenges. Ensley notes that more vitamin and mineral deficiencies are seen now than 30 years ago. Again, it’s not a simple answer.

Part of it is cost-cutting, but part of it is simply more information because of more advanced tests. Calves produce more beef more quickly and thus require more nutrients. Calving dates don’t always match up with natural forage and nutrient availability. Weather events also play a role.

Nearly 80% of issues stem from nutrition, Ensley says.

Trace minerals and vitamins are vital to immune function, specifically copper; selenium; zinc; cobalt; manganese; and Vitamins A, D and E. However, too much of antagonistic minerals — like sulfur, molybdenum and iron — can override the benefits. The tricky part is those antagonistic minerals are necessary, just in

proper amounts. The immune system is the first affected if the balance is off.

Parasites

When parasite numbers go up, the immune system’s ability to detect foreign objects goes down. Ensley calls internal parasites the “perfect embezzlers.” Parasite control increases production and weight gain, and cattle are better able to respond to vaccines.

Ensley says the best deworming practices include keeping your veterinarian involved, determining the parasite population in your herd, choosing a dewormer with great efficacy, applying proper dosage *based on weight*, and evaluating efficacy periodically.

He emphasizes, “When we don’t apply a product correctly or if we underdose, that gives the most opportunity to form resistance.”

Other infections

Other infections can increase the risk of BRD. Once an immune system is challenged, it’s far more

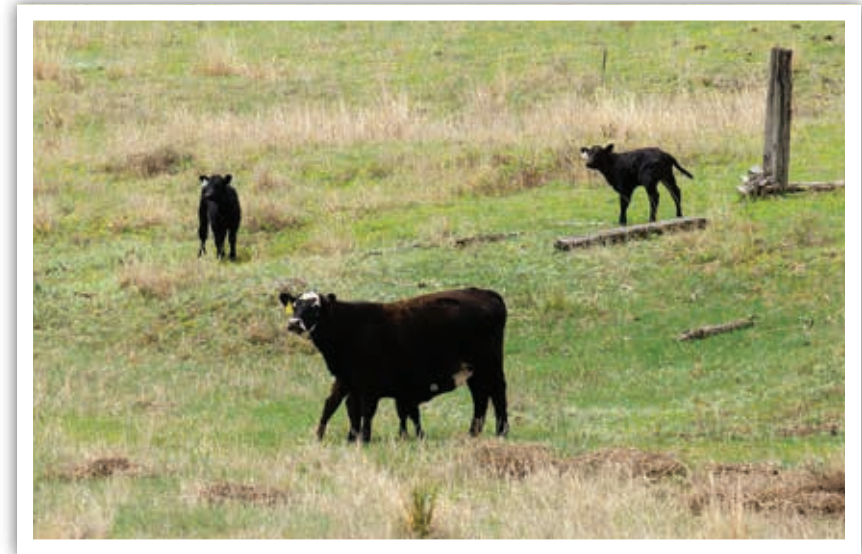
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susceptible to other diseases.

Bovine viral diarrhea virus (BVDV) is a prime culprit. When purchasing animals, there’s a chance they are persistently infected (PI) with BVDV.

“A PI animal is similar to a Typhoid Mary; they appear normal and healthy, but they’re actually shedding BVDV onto the rest of the group,” explains Cummings. “That’s why testing and removing those animals is an imperative biosecurity measure to control BVDV.”

Vaccines are only one part of disease prevention, and they can’t be expected to cover everything. Ensley shares research saying in



The fight against BRD starts on the ranch, as early as gestation. Dam health, nutrition, preconditioning, parasite control and vaccinations all play a role in immune strength.

the last 20 years, serotype BVDV-2b has decreased in prevalence to 10% of cases, BVDV-1a has decreased to 12%, but BVDV-1b still sits at 78%. The serotype 1b isn’t in vaccines, he says.

Vaccinations

While vaccines are not a silver bullet, they are an integral part of the solution. Ensley says a vaccine mimics the disease, but without clinical signs. It launches an immune response so it’s ready if and when the immune system comes into contact with true disease pathogens.

Ensley recommends vaccinating the cow herd, because that also affects the calf crop. He recommends vaccinating cows 45-60 days before breeding, and no closer than 30 days. He stresses not to vaccinate pregnant cattle with a modified-live virus (MLV) vaccine, especially if they haven’t been vaccinated with an MLV in the past 12 months. He is a big believer in vaccinating before breeding.

Calves should be vaccinated before being commingled and exposed to a whole host of new germs. Ideally, they should be vaccinated before weaning, so by the time their passive immunity from mama wears off, their acquired immunity will keep them covered.

For spring calf vaccination, Ensley recommends vaccination against clostridial diseases, viral and bacterial pneumonia. Clostridial includes blackleg. Viral diseases include infectious bovine rhinotracheitis virus (IBRV), BVDV I and II, bovine respiratory syncytial virus (BRSV) and parainfluenza 3 (PI₃). These can be administered intranasally, or by injection either in MLV or killed vaccines. Bacterial pneumonia includes *Mannheimia* (formerly *Pasteurella*) *haemolytica*. He suggests the options of vaccinating against leptospirosis in problem herds, and *Histophilus somnus* and *Mycoplasma spp.*

It’s important to work with a veterinarian on establishing your vaccine protocols and health considerations for your own herd. If you send your calves to a feedyard, it wouldn’t hurt to talk with the manager about health challenges specific to that area, if it is in a different location than your own herd. Moore says he’s worked with several consulting veterinarians to develop a health protocol that works for receiving cattle. About 90% of his customers “follow it to a T,” and those calves do well.

Whether your calves will end up at a feedyard or not, fighting BRD from all sides will set up your cattle for success and let you all breathe easy. █