

Herd Health Roundup



PHOTO COURTESY OF VAN NEWKIRK-HEREFORDS

Ongoing research points to the value of vaccination protocols — and suggests the earlier in a calf’s life the better.

by **Kindra Gordon**

To producers who are thinking about cutting costs, Doug Ensley emphasizes that administering vaccines is not the place to cut corners. Ensley, a veterinarian with Boehringer Ingelheim Vetmedica, points out, “Not vaccinating cattle is not a good idea for cattle health — especially as antibiotic use for treatment of sick cattle is becoming more limiting.”

He notes that disease prevention — through management protocols like vaccination — is a direct

contributor to herd performance of both cow and calf and, thus, ultimately impacts profitability.

Begin early

Regarding calf health, Ensley shares research that shows as high as 10% of calves experience bovine respiratory disease (BRD) within their first 100 days. Thus, Ensley says, “Waiting to vaccinate when they get to the feedyard is not soon enough. We have to do a better job of taking care of calf health... .

We’ve got to think about doing it on the ranch.”

Ensley says research data now indicate early vaccination, at about 60 days of age, may be a way to enhance calf health. An Arkansas study found an injectable vaccine administered at 62 days of age didn’t harm calves or cows, and calves thereafter had no incidence of disease.

Ensley also underscores that preconditioning protocols prior to and at weaning are proven to help garner premiums for calves in the marketplace, so using them should be considered. Presently only about 30% of producers nationwide utilize this management practice.

Likewise, regarding replacement heifers, Ensley emphasizes that a vaccination program early on can set those animals up for long-term reproductive success. From earlier breeding to a shorter calving season, he notes vaccinating heifers can help ensure that they perform and stay in the herd for a long time. “That’s the premier goal,” he adds.

Pay attention to perinatal period

Victor Cortese, a veterinarian and director of cattle and equine immunology for Zoetis, echoes Ensley’s advice for producers to enhance early calf care. Cortese also notes more and more research indicates calf health in the first 60 days is paramount to long-term performance of the animals, and he says, “A calf’s highest genomic potential is the day they are born and then we start to screw it up.”

That said, Cortese emphasizes research in the area of “perinatal programming” is looking at what is important to the calf after it’s born to help it reach its full genetic potential. (The term “perinatal” refers to the time before the calf is born.) As one example, research over the past decade suggests not only is colostrum important to the immediate health and immunity of the calf — but colostrum’s biggest impact may actually be in influencing a calf’s long-term performance.

Cortese reports researchers are finding the presence of hormones, insulin, leptin and relaxin, all found in colostrum, are responsible for influencing long-term feed efficiency, gain, appetite and management of stress. Of this emerging research, he says, “Colostrum transfer is one of the best predictors of how calves will do.”

Additionally, Cortese shares that research findings also suggest the more growth a calf has in the first 60 days of life — the more efficient that calf will be throughout its life. Cortese suggests a good rule of thumb is to double a calf’s birthweight by about 60 days.

A second area of emerging research, according to Cortese, is the concept of “prime boost,” which he describes as utilizing and properly administering vaccinations to cattle at different life stages. He suggests thinking about the stages as “a baby, maintaining them through being a teenager, and then through to adulthood.”

One prime boost research concept indicates more vaccine efficacy and disease control can be achieved by combining use of intranasal products with injectables. Specifically, when an intranasal is administered prior to use of

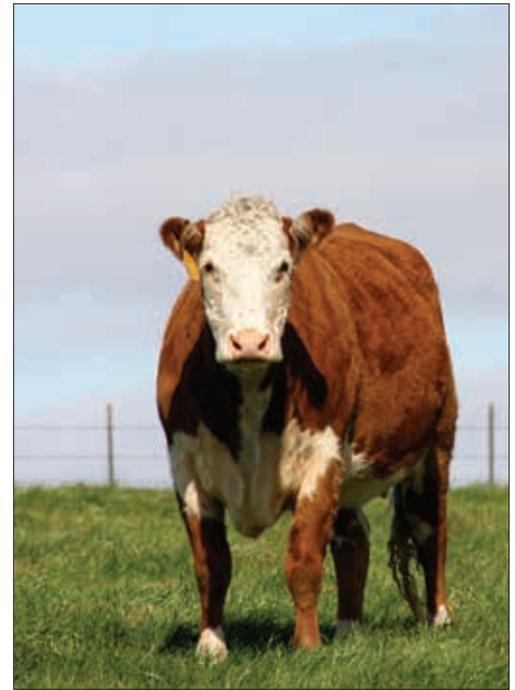
injectables, the successive immunity and performance of calves appears to be better, reports Cortese. Of the emerging research, Cortese anticipates improved management protocols to come and says, “It’s changing what we do when vaccinating young calves.”

Nutrition essential, too

Research is also continuing in the area of fetal programming, which refers to maternal events during the development of the fetus, and findings continue to underscore how the female is treated throughout gestation is crucial to the future reproduction of that female as well as the future performance of her progeny.

Lee Dickerson, a nutritionist with Land O’Lakes Purina Feed LLC, likes to say “Take care of mama,” when he advises cow-calf producers in caring for pregnant beef cattle.

Dickerson explains the current paradigm among most producers within the industry is that concern with health and nutrition begins after calves are on the ground. But he notes, “The brood cow is the only managed species where the industry plans on her to lose weight during gestation...Maternal hunger — during green up, drought, or winter — is the norm.”



Not only is colostrum important to the immediate health and immunity of the calf, but colostrum’s biggest impact may actually be in influencing a calf’s long-term performance.

However, Dickerson says research results suggest if first-calf heifers and cows are in a low body-condition score during pregnancy, it affects the female’s ability to breed back and the calf’s performance — particularly with implications to future calf health, growth and carcass performance, and reproduction.

continued on page 82...



Research results suggest if first calf heifers and cows are in a low body-condition score during pregnancy, it affects the female’s ability to breed back and the calf’s performance.

Dickerson explains, “Each trimester appears to be critical [for proper nutrition and body condition].” He notes that during each trimester, important development of the fetus is occurring. In the first trimester, the placenta forms and develops, as do limbs and organs. During the second trimester, organs grow and muscle tissue develops. During the third trimester, 75% of fetal growth occurs and final development of the lungs takes place, which could be important to influencing future respiratory health.

Dickerson says results from several research trials show when nutrition was restricted during any of the trimesters, both the cows’ and calves’ performance was negatively impacted.

Thus, Dickerson advocates to cow-calf producers that they

should focus on providing all-seasons nutrition via mineral and other necessary supplements so animal performance can be improved and cows are not forced to “catch up.” He shares in herds doing this, conception rates and weaning weights have both shown dramatic improvements.

Form a team

Cattle producers are encouraged to work with a nutritionist and veterinarian to design a herd-health program that fits their individual operation. Ensley advises, “Build a relationship with them so they help grow your herd and keep it healthy.”

He also suggests developing a herd-health calendar to track what is being done in the herd, at what timing and how it is working.

Additionally, Ensley advises selecting animal health products based on research results, monitoring nutritional status in the herd and continually improving genetics to maximize productivity. Lastly, he says, “Keep excellent records,” and adds, “If you don’t keep records, how do you make your decisions?” **HW**

Editor’s note: Doug Ensley, Victor Cortese and Lee Dickerson shared their remarks during the educational Learning Lounge sessions held in the trade show at the 2017 Cattle Industry Convention in Nashville, Tenn.



Glimpse at the future: Genetic markers to identify BRD

“Genomics allow us to look ‘under the hood’ of an animal so to speak,” explains Alison Van Eenennaam with the University of California-Davis (UC-Davis). She notes that in the past 10 to 15 years, DNA sequencing has brought the industry to where it is today and has allowed breed associations to incorporate genomic information into their national cattle evaluation programs.

That said, Van Eenennaam says a hindrance for the future is collection of new data to develop new trait selection tools for fertility, feed efficiency or disease traits not currently represented in the national cattle evaluation.

But a five-year United States Department of Agriculture (USDA) funded project is helping address that data hindrance at least with regard to bovine respiratory disease (BRD).

Titled the Bovine Respiratory Disease Complex (BRDC) Coordinated Agricultural Project (CAP), the effort is a collaboration among researchers at Texas A&M University, Washington State University, UC-Davis, New Mexico State University, Colorado State University, the University of Missouri, USDA’s Agricultural Research Service and GeneSeek Inc. of Lincoln, Neb.

Van Eenennaam explains the focus on BRD is important as BRD is the number one disease challenge for the U.S. cattle industry — with a 16.2% national prevalence of BRD in the feedlot. An economic cost of \$253.97/per BRD feedlot steer is estimated as a result of loss of carcass quality, death and treatment costs. She also shares there are as many cattle dying from respiratory disease today as there were 30 years ago — despite advances in vaccines and technology.

Van Eenennaam says ultimately the goal of the BRD CAP is to identify genetic markers that can be used to select for healthier cattle, specifically those that are less susceptible to BRD.

She states, “Our premise is that using genetic selection is a better solution to BRD than antibiotic therapy. A BRD EPD is our goal at the end of the day.”

Getting to that point is no small undertaking. Van Eenennaam explains that thousands of BRD observations are needed, and, thus, collaboration with several universities is also necessary. Additionally, because diagnosis of the disease is not, in her words, “black and white,” an objective scoring system to consistently identify BRD had to be developed.

Trials with both dairy and beef cattle are included in the effort. Beef animals included 1,000 case animals in Washington and 1,000 in Colorado — and 1,000 controls in each of those projects, as well.

While a BRD EPD is still several years away, initial results indicate BRD incidence is about 20% heritable, according to Van Eenennaam. While she acknowledges this is a low heritability, she says it is “better than nothing” and can still begin making a difference. She notes, “We won’t have bullet-proof cattle, but can select cattle that are less likely to get sick if you treat them properly.”

Additionally, as the genetic selection ability for BRD resistance becomes available in the future, Van Eenennaam believes there may be premiums for cow-calf producers that add this trait to their selection pressure. **HW**

Editor’s note: Learn more about the project at BRDCComplex.org. Additional information about research efforts focused on developing genetic tests for other economically important traits including feed efficiency and reproduction can be viewed at eBeef.org. Van Eenennaam addressed Cattlemen’s College attendees Feb. 1 at the 2017 Cattle Industry Convention in Nashville, Tenn.