

Disease Factor

Cow-calf producers should consider common diseases and syndromes in their animal health programs.

by Corinne Patterson

No matter where you raise cattle, there are a number of diseases your cow herd is likely to encounter. "As a producer, you have to do a risk analysis and decide how much insurance you want to buy," Mel Pence says. He describes as insurance vaccines, nutrition and/or management protocols.

"If your aversion to risk is very great, then you ought to be vaccinating for a lot of things. If your banker's aversion to risk is very great, maybe you ought to be vaccinating for a lot of things. If your aversion to risk is a little more tolerant, then that list may not be as comprehensive," he says. "It depends on the goals and aspirations of each producer as to what his or her vaccination protocol is going to include."

Pence, a veterinarian and bovine disease outbreak specialist at the University of Georgia (UGA), says animal health isn't an open-and-closed subject. If you ask producers, veterinarians and researchers across the nation what diseases they fear most when considering the cow-calf herd, you're bound to get an array of answers. True, many concerns are the same across the nation, but there's no one-size-fits-all prescription for preventing disease.

"The disease you had most recently is the number one on your list — always," says Nolan Hartwig, Extension veterinarian at Iowa State University. "If you ask cattle producers in the summertime what's their biggest health problem, they are going to tell

you pinkeye. Depending on if they are a cow-calf producer or not, if you ask them in the spring, it's going to be neonatal diarrhea."

There are many factors to consider when discussing bovine health. Pence says producers should concentrate on the big picture, which includes nutrition, the environment in which the animals live and management practices, along with disease concerns.

"If we approach the problem from the standpoint of addressing only one of those specific areas, we really don't solve the problem. We really don't have a positive impact on the problem until we address the complete problem — a holistic approach — with nutrition, parasite control and some kind of infectious disease protocol."

While Hartwig acknowledges an organized approach to herd health has improved conditions within individual herds, he says the industry as a whole still has work to do. "I wish I could sit here and say that our losses are way down as an industry," he says, "but there's no data to support it."

Disease breakdown

"Sometimes we get very, very focused on a disease or a vaccination protocol, and it takes away from what the real issues are," Pence says. Oftentimes, the problem isn't one disease specifically, but more of a syndrome, like reproductive inefficiency, he

says, adding, "that's certainly the largest problem in the cow-calf industry today."

Reproductive inefficiency can be caused by many health problems. One issue Hartwig acknowledges is nutritional infertility. This is a case where producers experience the failure of cows to conceive due to nutritional conditions, which are generally related to lack of energy in the diet and/or poor body condition.

Producers should be aware of the top diseases that hamper efficient reproduction in the cow herd and discuss options with a local veterinarian.

"I would be concerned about IBR, or infectious bovine rhinotracheitis, because it causes reproductive disorders, and it causes respiratory disease," says Doug Ensley, veterinarian and beef production medicine specialist at UGA. IBR can cause cows to abort, he explains, noting, "that cow isn't productive unless she produces a calf."

Leptospirosis (lepto) causes abortions and will cause weak calves at birth, Ensley says. Campylobacteriosis, or vibriosis (vibrio), is a venereal disease of cattle caused by a bacterium that lives in the lining of the reproductive tract. "Vibrio is a concern because it causes early embryonic death," Ensley adds. "Cows will conceive, but then they abort right away, delaying calving production."

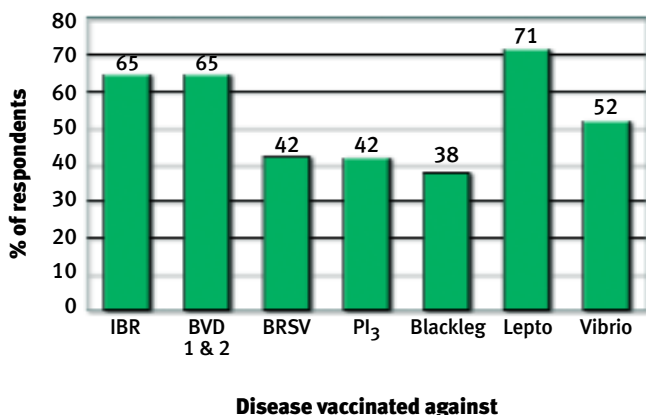
Pence says many of today's beef producers may not be as concerned about vibrio because not many cases have been diagnosed recently. "In the past we have done a pretty good job of vaccinating for vibrio, and it's a fairly effective vaccine. But, unfortunately, we are beginning to ignore vibrio. If we don't get back to vaccinating for it, we could be in trouble," he warns.

Bovine viral diarrhea (BVD) is another disease that is associated with reproductive problems and many other problems. "It's

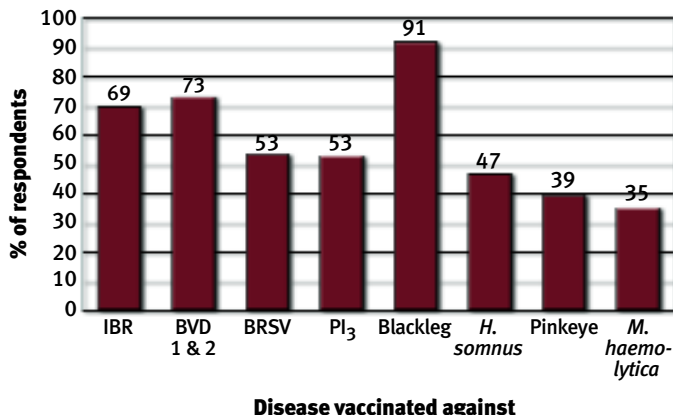
Vaccinating the cow-calf herd

A readership poll of the *Angus Beef Bulletin* in October 2004 shows what diseases producers most vaccinate cows and calves against.

For what diseases do you vaccinate your cows?



For what diseases do you vaccinate your calves?



Top disease concerns

The *Angus Journal* polled four veterinarians to see what diseases cause some of the top concerns in cow-calf herds. While this list isn't comprehensive (since different disease problems present themselves in different ways), veterinarians Nolan Hartwig, Iowa State University; Jeff Lakritz, The Ohio State University; and Mel Pence and Doug Ensley, both with the University of Georgia, share some insight. These

veterinarians caution that this list isn't in a ranked order. They also warn producers that disease control isn't simply tackled with just a vaccination program. A total herd health plan — including nutrition, management and control of the microenvironment — is also necessary.

Calf

calf scours
bovine respiratory syncytial virus (BRSV)
blackleg
parainfluenza-3 (PI₃)
coccidiosis
clostridials
Pasteurella haemolytica
Haemophilus somnus



Both

infectious bovine rhinotracheitis (IBR)
bovine viral diarrhea (BVD)
pinkeye
parasitism (internal and external)
foot rot
bovine leukemia virus (BLV)



Cow

nutritional infertility
leptospirosis (lepto)
vibriosis
trichomoniasis (trich)
neosporosis
Johne's disease

associated with abortions, stillborn calves, calves born deformed and calves born persistently infected (PI)," says Jeff Lakritz, a large animal veterinarian with The Ohio State University. PI animals produce large amounts of the virus and shed it into the environment, causing problems in cattle of all ages.

Another disease problem that affects the entire herd is pinkeye. "I think that's the bane of all existence, just because the treatments and the vaccines work sometimes and don't work sometimes," Ensley says, adding that management strategies such as keeping grass short and keeping fly populations down can help control pinkeye.

Depending on the region and how the cattle are managed, trichomoniasis (trich) and neosporosis control might be important to discuss with a veterinarian, Hartwig adds.

Calves at risk

It's not only the mothers who are harmed by disease. Their calves suffer as well. It's also important to monitor diseases that can make the calves sick. Hartwig says neonatal diarrhea, or scours, is a concern during calving time.

"If that calf gets sick, he loses those days when he could be gaining. Instead, he's sick and scouring," Ensley says, adding that sickness may mean lighter weaning weights and less monetary return. "Getting those calves off to a good start is really key to how they do in the future. There are lots of studies that show us that they never do catch up to their herdmates that don't get sick."

Keeping calves healthy is key to both sides of the profit equation: income and expense.

"When you think about vaccinating your calves, there are two reasons to vaccinate," Pence says. "One is to avert disaster, and the other one is to help market your cattle."

Diseases to vaccinate against to prevent disaster may include the clostridials, blackleg, IBR, BVD, parainfluenza-3 (PI₃) and bovine respiratory syncytial virus (BRSV).

Pasteurella haemolytica and *Haemophilus somnus* are bacterial challenges that will cause disease concerns in calves, Ensley adds.

How and when calves are vaccinated has a lot to do with an individual producer's management practices. Ensley says, "Everybody is a little bit different. We are talking about the same vaccines, but when they are given to the cow or calf and what's the best for that producer and how those are handled is the real key."

"One of the biggest mistakes we make in animal health is we try to cure or prevent all our problems with a vaccine. That's merely working with the agent, when the control of a lot of these diseases has more to do with manipulating the host and the environment," Hartwig says. "The host factor may be nutrition, and the microenvironment is the immediate area in which the animal or herd lives. Improving ventilation, running some concrete, or making major changes in the winter ration often have much greater effect on health and productivity than vaccines and animal drugs."

Future factors

Today's bovine disease concerns aren't necessarily more challenging than those of the past, Pence says. "The more I read [old literature], the more I find the challenges were always there; we've just done a better job of identifying them. There are going to be some new diseases come on board," he continues. "There are certainly going to be new strains of viruses that will occur. A prime example of that is the BVD virus. We used to have Type I BVD, and the virus

mutated and became Type I and Type II. Type II created a challenge for the cattle industry."

Hartwig says that just 10-15 years ago, the quality and safety of beef weren't even topics of discussion at Extension meetings with producers. Today, producers are primarily concerned with how to ensure their beef product is safe and how to convey that image of food safety.

With disease making headline news, public opinion will continue to be of importance to producers. Lakritz says, "Public opinion regarding quality and safety of beef products will continue to challenge the industry. Producers need to proactively address farm biosecurity, animal identification and product quality programs. Isolation and observing new animals prior to herd introduction are just one aspect of an overall biosecurity program."

Ensley points out that the national animal identification (ID) program will affect producers and animal health throughout the country. The national program will allow for traceback if an animal disease concern presents itself within the country.

These veterinarians all agree that the future of bovine disease control goes beyond a vaccination protocol.

"The best way to manage health is to have a close working relationship with a veterinarian," Hartwig says. "We can give general principles, but they've got to work it out to fit their environments, their herds, their genetics, their feed resources and other financial resources. Working with their local veterinarians and professional nutritionists, a financial advisor who understands cattle, their breed associations, other seedstock producers — those are all critical."

