

Vaccines: Tip of the Iceberg



PHOTO BY SHAUNA ROSE HERMEL

Practicing veterinarian explains the management strategies required in a herd health plan and how to develop a practical vaccine program.

by **Paige Nelson**, intern

‘Some of you may consider that a vaccination program is a herd health program. I hope by the time you leave I will have dissuaded you from that opinion,’ veterinarian Arn Anderson told Cattlemen’s College® attendees at the 2014 Cattle Industry Convention in Nashville, Tenn., Feb. 3-7.

“Vaccines can provide protection, but they’re not going to solve a problem if you haven’t had good management to start with,” said Anderson.

Before producers develop a vaccination program, they need to ask themselves why they want one and how their overall herd health program is functioning. According to Anderson, a herd health program consists of biosecurity, parasite control, nutrition, environment, genetics, observation of cattle and biological containment — essentially just good management.



Herd health plan

“Biosecurity is stopping a disease before it gets on your place,” said Anderson. To explain his point he shared a real-world scenario. One of his clients in Texas had worked hard to develop a group of heifers of which he could be proud.

“He had good heifers,” said Anderson. He had put in the time and money to select the genetics he wanted. The heifers were all verified bred by ultrasound.

Besides raising high-quality heifers, this producer liked to hunt wild hogs. He caught some hogs and kept them in his stock trailer. For convenience during the winter, he backed his stock trailer into his heifer trap.

When the blood test results came back on the wild hogs, they all tested positive for a form of leptospirosis called *bratislava*. Now, earlier in the year, the producer had vaccinated his heifers twice for the form of leptospirosis commonly found in cattle. There was no vaccine for *bratislava*, and there still isn’t.

While the stock trailer had been parked in his heifer trap, the urine from the trailer ran down into his water source, and his pregnant heifers drank the water. Fifteen of the 30 aborted. When Anderson tested the heifers, seven tested positive for *bratislava*.

Biosecurity on a cattle operation does not

only mean being wary of other cattle, but also other species and anything else that may be a carrier of disease, Anderson emphasized.

He recommended that any new animal or any animal that returns to the herd after leaving for a feed test, the showring or for any other reason spend at least 30 days in isolation before being allowed to commingle with the herd. He advised that within that 30-day period the animal be tested for bovine viral diarrhea (BVD), tuberculosis (TB) and bovine leukosis virus (BLV) and receive the herd’s vaccination and parasite protocols.

Parasites and nutrition

If an animal is fighting parasites, whether internal or external, it will not respond well to vaccines, said Anderson. A comprehensive parasite-control program is essential for good vaccination results.

“Give them a running start,” said Anderson. Healthy cattle are better able to build immunity to disease. Good nutrition plays a major role in overall cattle health.

“Nutrition includes minerals, water, energy, protein, vitamins; it’s not just that round bale of hay,” Anderson added.

Using body condition score (BCS) is an excellent way to monitor nutrition, said Anderson, encouraging his audience to download the University of Nebraska Body

Condition Scoring App, NUBeef-BCS (see <http://beef.unl.edu/cattleproduction/nubeef-bcs-app> for more information). Anderson explained that the app allows producers to take pictures of their cattle and to compare them with a true score.

A useful way to assess mineral concentrations in feed is to get a liver biopsy, which is easily performed by a veterinarian, he said. The best time for a liver biopsy is right after death in adult cattle or whenever cattle are sent to the slaughter plant.

The environment will greatly affect the health status of cattle. Anderson shared an experience he had at a ranch that was suffering 40% death loss among yearling heifers. Heavy rainfall and flooding had recently affected the ranch. The heifers were knee-deep in water. They had nowhere dry to sleep and were crowded. Anderson attributed the significant death loss on this ranch to the cattle's environment.

Understanding and using genetics is also a valuable part of a herd health program, Anderson said. "You will decrease the health of your herd if you do not pay attention to genetics."

Observation and checking on cattle consistently will help producers be better aware of any existing or future problems they may have.

"My cattle often get observed at night by headlights, and sometimes from the county road. That is my confession," said Anderson.

"It's worth the money to have somebody who is unbiased watch how your crew processes cattle."

— Arn Anderson

"Can I tell if anybody's sick? Yeah, [I can tell] if she's not breathing, or if she's not with the herd." One of Anderson's clients opts to feed square bales by hand because it forces

him to pay closer attention to his cattle.

Once a sick animal is spotted, the biological containment of that disease is the question.

"How many of you see that sick bull, sick cow, sick heifer and are going to get to it tomorrow?" asked Anderson. He explained that biological containment encompasses the plan of action for treating the sickness, the facilities and tools used for treatment and the sick pen or housing for that animal.

"Do you have a way of containing that outbreak?" he asked.

Vaccination plan

Once a proficient herd health plan has been established, a working vaccination program can be created, but only with the

help of an unbiased information source. Google, magazines, salesmen and neighbors may all have good ideas about vaccines and plans, but Anderson cautioned producers against using a one-size-fits-all vaccination plan.

First, establish goals and expectations, Anderson advised, noting that one of his clients never vaccinates, deworms or provides salt or minerals to his cattle. The client expects to have a disease outbreak every five years.

"What are your expectations?" asked Anderson.

Providing protection to cattle starts with

defining what diseases are important on your ranch from an economic and production standpoint. Different regions of the country will require vaccinating against different diseases. Even within a county there can be differences.

"My county is on the Red River," Anderson explained. "On the banks of the river, we have problems with liver flukes. On the southern end of the county, where we don't have any water, we don't have the liver fluke problem."

What type of cattle you raise will also affect your vaccination program, noted

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Anderson. Cow-calf operations, stockers and feedlots will all vaccinate differently.

Product selection probably needs the highest degree of unbiased information, Anderson said. There are three points of vaccine efficacy that producers need to be aware of before making their choice — duration of immunity, onset of protection and level of protection. An effective vaccine plan matches the product's performance levels to the producer's expectations. Remember, like most things in life, just

because it is cheap doesn't mean it is good.

"Time your product to your production calendar," counseled Anderson. The vaccine's practicality will decide its usefulness. Use vaccines to optimize protection, not maximize it.

"I can sit down right after this meeting and write out a great vaccination plan for you that covers the major diseases in the U.S. It will protect you at the highest level of immunity that we can afford. Now, how comfortable are you with working your

cattle 11 times a year?" asked Anderson.

Compliance with a program this intensive will be very low due to its practicality, stated Anderson. "A vaccine does you no good in the refrigerator."

Anderson emphasized that Beef Quality Assurance (BQA) — which entails keeping good records of administration routes, documenting expiration dates and proper vaccine handling — is key to managing a vaccination plan.

"Can you expect your vaccine to work if

you don't give it in the correct fashion? Can you expect it to work if you let it heat up on your dashboard prior to giving it?" Anderson asked. "We have ranches that hire my technicians to come and audit them. They audit their processing, their performance at the chute and how things are going.

"Would you pay \$50 per hour to have another set of eyes watch your process? It's worth the money to have somebody who is unbiased watch how your crew processes cattle," he stated.

Test your veterinarians. Make sure they can answer why they are prescribing a certain vaccine, said Anderson. "Because I think so, or because I get the biggest rebate or because I have it on the shelf" are failed answers. "If [your veterinarian] says, 'because the onset of immunity is shorter and the duration of immunity is longer, and it's a subcutaneous injection not an intramuscular injection and here's why I like those,' that's what's important," explained Anderson.

Anderson also advised making evidence-

based decisions rather than anecdotal-based decisions on vaccines.

"Do you know that you have BVD, or did you just assume you had BVD?" Anderson asked. Base it on evidence such as diagnostics, necropsies and samples. Don't spend money and time trying to fix a supposed problem.

"Remember that your vaccine plan is part of a health plan; it's not the whole enchilada," said Anderson. "It is never a substitute for management."

