



Tee Up Your Herd Health Program

Build better cattle vaccination protocols.

by Kindra Gordon



“Vaccination programs for cattle are a lot like golf,” suggests Lowell Midla, veterinary technical services manager with Merck Animal Health. Of the analogy he explains, “Golf is easy to do, but difficult to do well.” Likewise, he says vaccination programs can be as simple as a 9-way and a 7-way vaccine, but implementation of a complete herd health program is always more complex than that.



Lowell Midla

Midla, who has 24 years of experience as a practicing veterinarian and has spent 15 years teaching at Ohio State University Veterinary School, shared his insights during the “Setting Up for Success” virtual educational sessions that were part of the American Hereford Association’s (AHA) 2020 Annual Membership Meeting and Conference Oct. 19-24.

Vaccination timing

Midla notes a 9-way vaccine protects against the four bovine respiratory disease (BRD) viruses: infectious bovine rhinotracheitis (IBR), bovine viral diarrhea (BVD), bovine respiratory syncytial virus (BRSV) and parainfluenza-3 virus (PI₃). It also includes a 5-way leptospirosis vaccine. The 7-way vaccine protects against clostridial diseases including blackleg, overeating, etc. Determining the type of vaccine (modified-live vs. killed virus; intranasal vs. subcutaneous administration), when to administer, boosting the vaccine, when to administer the booster, etc., and doing so within the management

constraints of the ranch (e.g., when animals are available to be handled) make building a herd vaccination program complex.

Midla says vaccination against the four BRD viruses is “one of the most important vaccines you can give an animal in preparation for weaning” because weaning is probably the biggest stressor in the life of a beef animal. BRD and pneumonia following weaning is pretty common.

Because stimulation of the immune system takes time, Midla emphasizes vaccines must be given prior to the expected challenge. “Nearly all vaccines are also at least somewhat of a stressor, so giving shots at weaning is an extra stressor,” he says.

If calves cannot be gathered for vaccination prior to weaning, an alternative is to give an intranasal (administered through the nose) BRD vaccine at weaning since intranasal vaccines are generally considered to be less of a stressor than parenteral (administration through any route outside of the gastrointestinal tract) vaccines.

Additionally, if a producer wants to vaccinate for respiratory diseases when calves are still young, such as at branding, intranasal products may be more effective due to potential interference from maternally derived antibodies in calves younger than 3 to 4 months old.

For yearlings, the 9-way vaccination should be administered prior to breeding, Midla says. For cows, a modified-live, 9-way vaccine should be administered annually when cows are open. If using a killed vaccine, Midla suggests administering the 9-way vaccine twice a year.

Regarding the 7-way vaccine for clostridial diseases, Midla recommends a first dose and an appropriately timed booster, with both doses ideally administered after the calves are at least 3 months old. Yearlings also need a 7-way vaccine, and while it can be optional for cows (depending upon prevalence in your area), Midla strongly recommends it because, if the dose is timed appropriately during late pregnancy, it can increase antibodies in the cow’s colostrum which then passes some immunity to the newborn calf as well.

Additional considerations

Midla strongly recommends all producers work closely with a local bovine veterinarian to determine the most effective protocols for their herd. He offers several general guidelines to achieve this goal:

A modified-live IBR, BVD, BRSV, PI₃ vaccine has several advantages over a killed vaccine. However, in some limited circumstances, it can potentially adversely affect conception. One way to help prevent that risk is to move the prebreeding vaccination to 60 days prior to breeding heifers.

Neonatal diarrhea prevention vaccines are effective at reducing the incidence and severity of the problem in calves. Heifers need two doses, and cows need an appropriately timed annual booster.

Pinkeye vaccination is also worth considering. Midla explains producers should vaccinate against both *Moraxella bovis* and *Moraxella bovoculi*. He adds while commercially available pinkeye vaccines must demonstrate efficacy to be approved for distribution, there is no such requirement for autogenous (derived from microorganisms in the affected individual) vaccines. He is aware of four research trials in which autogenous pinkeye vaccines failed to show efficacy and none in which they succeeded.

Tetanus shots must be given any time castration is performed using a banding method. Again, remember to vaccinate prior to the event. He says six weeks prior with a booster three weeks prior is ideal; at minimum, vaccinate three weeks prior with a booster given when the band is put on.

He adds, “With vaccination, there is ideal, and then there is what the producer can [reasonably] get done. Always strive for excellence. If you cannot achieve excellence, then sooner or later you may see disease problems that could have been prevented.”

Midla reminds producers, “Vaccines are, in general, effective, but they are not a panacea.” He points to the disease triangle of pathogen, host and environment and notes that while vaccination makes the host a bit more resistant, disease can result from a failure of any of the three.

Bottom line: Midla advises finding a good veterinarian and building a relationship with him/her to address herd health as a total program — with written protocols on the calendar. “Don’t just use your veterinarian for emergencies,” he reminds producers. **HW**

Editor’s note: Merck Animal Health has partnered with the AHA to offer education on herd health. In this effort, Lowell Midla, along with his colleagues at Merck Animal Health, contribute a regular column about herd health for the *Hereford World*. Look for these “Handle on Health” articles in the magazine or access the series of articles online at [Hereford.org/category/hereford-health/](https://www.hereford.org/category/hereford-health/).