MONDOVI
VETERINARY SERVICE

Beef Herd Vaccination

As calving season comes to an end, it's time to focus on what comes next. For most, the next major milestone will be processing calves. A major component of processing is vaccination. Let's take a minute to understand what goes into designing a vaccination protocol specific to your needs.

The pathogens we can vaccinate against fall into four general categories.

1. **Respiratory**: [IBR, BVD, PI3, BRSV and *Mannheimia haemolytica*]
   IBR, BVD, PI3 and BRSV are all viruses, meaning that if they were to cause a problem on your operation, treating animals with an antibiotic would be futile, and prevention is key. In most situations these viral organisms are the "gateway bugs", weakening the calf's ability to fight off disease and allowing for bacteria to set in and cause more serious disease. By vaccinating against them, you give your animals a leg up in their ability to fight viral pneumonia and prevent a more complicated bacterial pneumonia.
2. **Enteric**: [Rotavirus, Coronavirus, *E. coli* and *Clostridium perfringens*]
   All of these organisms can cause calves to scour. If scours is something you struggle with year after year, vaccination may be something to add to your tool box.
3. **Abortion**: [Leptospirosis, IBR, BVD]
   These organisms can cause abortion, early embryonic loss or fetal abnormalities depending on the time frame in which the pregnant dam is exposed.
4. **Clostridial**: Clostridial organisms can cause a variety of diseases including Black leg and tetanus.

Killed vs Modified Live Virus: There are two primary types of vaccine, killed and modified live virus (MLV). What's the difference?
A killed vaccine contains an inactivated organism, meaning that it cannot cause disease. In comparison, a MLV vaccine contains an organism that is modified into a safer form, but if given at the wrong time it can cause disease. It may seem that a killed vaccine is the way to go, however, MLV vaccines provide better, longer lasting protection. When given at the appropriate times MLV vaccines are very safe.

In addition to understanding the types of pathogens and types of vaccines it's important to understand when to vaccinate with which products. In general, we recommend giving an intranasal MLV respiratory vaccine within the first two days of life. If you separate your calves to tag and band them on day zero, this is the perfect time to add in some respiratory protection. If scours is something your herd struggles with, this may be your opportunity to add an enteric supplement to boost your calf's immune system.

The next key time for vaccination is at weaning/processing. For an optimal response to vaccination we recommend doing this at 4-6mo of age. At this time we typically administer a subcutaneous MLV respiratory vaccine, a clostridial vaccine, and if bull calves are being banded or castrated, a vaccine specifically for tetanus (a clostridial organism).

Next, let's take a look at your replacement heifers. It's important for replacement heifers to be appropriately protected against organisms that can cause abortion. In order to achieve, complete protection most vaccines require two doses. Fortunately, the first dose of your MLV respiratory vaccine at processing can count as your first dose. The second dose or "booster" should be given 30 days pre-breeding and contain a leptospirosis component. Vaccinating these animals can also provide you with the opportunity to evaluate which heifers are unfit for breeding and will allow you to make stringent culling decisions.

Finally, your mature cows. Just like the flu shot, one vaccination regimen doesn't guarantee that you're good for life. The same MLV vaccine that you gave your heifers pre-breeding should be boostered in your cow herd 30 days before breeding. If pushing all of your adult cows through the chute pre-breeding is something that just isn't going to happen on your operation, you also have the option to administer a killed respiratory/abortion vaccine combination at pregnancy diagnosis, saving you one trip through the chute.

Last but not least, don't forget the bulls! Bulls can receive the same vaccines as mature cows or heifers.

Click below to take a look at a sample core vaccine protocol. There are vaccines that can be added into this protocol to better protect your herd or help minimize areas that you struggle with. For example, if you calve late in the spring and scours is always an issue, maybe you should consider vaccinating the dams with an enteric or scour vaccine. Let us know how we can help you design a protocol that is right for your herd.