

Doc, how do I use a modified live vaccine in my cows?

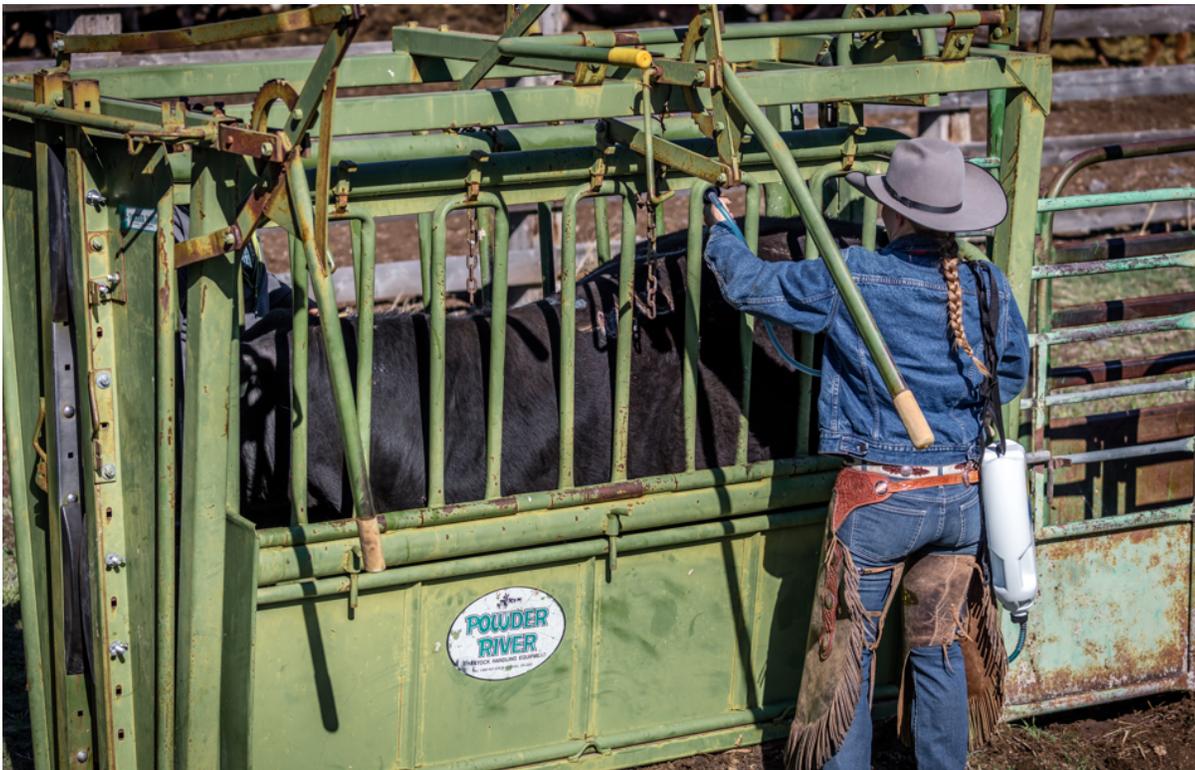
Dr. Lee Jones, DVM, MS

I've gotten several calls this fall asking about using modified live virus (MLV) vaccines in beef herds. Though modified live virus vaccines have been around for years and have been approved for use in adult cows for about 20 years there's still a lot of confusion about using them.

First, I need to explain what is meant by MLV vaccines. The vaccines that contain Bovine viral diarrhea virus (BVD types 1 and 2), infectious bovine rhinotracheitis or also bovine herpesvirus type 1 (IBR), Bovine respiratory syncytial virus (BRSV) and parainfluenza 3 (PI3) come in 3 types - modified live, killed or combination (chemically altered). When we refer to 'modified' live or killed we are referring to virus vaccines. Not 7 way Clostridia (also called 'blackleg') or pinkeye vaccines or other bacterin or toxoid type vaccines. While there is a live bacteria vaccine for respiratory protection, it's the virus part of the vaccine that causes the controversy. All MLV require mixing and they are clearly labeled on the front of the box MODIFIED LIVE VIRUS. The virus in these vaccines is alive and replicates in vaccinated animals causing a mild version of the disease. That's how MLV vaccines work.

Why the controversy?

MLV vaccines can cause abortions if used in pregnant cows or heifers and can delay breeding if given less than 30 days before breeding if the cows or heifers have never been vaccinated with the MLV vaccine before.



If they have serious risks why use them?

MLV can stimulate a quicker, stronger and longer immunity in one dose than even 2 doses of killed virus (KV) vaccines.

If they can stimulate immunity in one dose why is it recommended to revaccinate?

We recommend revaccination because not all cattle respond to the first dose but hopefully do respond to a second or even third dose.

If they're so much better why don't more people use them?

There isn't an easy answer to that one. There is a lot of confusion about how to effectively use a MLV in beef cow herds. When they first came out and were used in pregnant cows some cows aborted so MLV vaccines got a bad reputation even though there have been millions of doses given safely to cows and heifers. Plus, I think most farmers at least in Georgia enjoy the safety and flexibility of using KV. The problem with KV, though, is that the immunity isn't as good and it takes 2 doses 4 weeks apart to start and many farmers don't set their cows up that way. But, you also have to be careful how you mix and handle MLV vaccine. KV vaccine is much simpler to use.

There's a lot of research that shows that calves that receive 2 doses of MLV before they enter the feed yard have less respiratory problems than calves that get vaccinated on arrival. But farmers don't use the MLV in calves nursing cows because the label clearly states "do not use in calves nursing pregnant cows that haven't been previously vaccinated within the last 12 months". So if cows don't get the MLV vaccine neither do their calves. In fact, only about 3 in 10 small herd operations (<50 head of cattle) vaccinate calves against respiratory disease. So most calves leave the farm at a high risk for bovine respiratory disease (BRD).

For farms that don't use the MLV vaccine in their cows they need to use the vaccine after weaning - when they separate them from the cows. But most farmers wean the calves 'on the truck'. That means calves are sold and don't go through a weaning or preconditioning program on the farm where they were born.

How can I get started using a MLV in my calves?

It's best to work through the specific details with your veterinarian. However, there are some general recommendations. The MOST IMPORTANT principle is that vaccines work best in healthy cows in good body condition. The second most important is to follow all label recommendations.

If you are giving it for the first time to open cows then it shouldn't be given less than 30 days before breeding or bull exposure. Ideally, 45 days would be better. Since the virus infects the cow's ovaries it will cause a very short infertility that lasts less than 60 days in most healthy cows. If the bulls are separated then that's a good time to vaccinate the calves too. If you don't have a controlled breeding season this recommendation won't work. MLV vaccine should not be given for the first time to cows with unknown breeding status. It's too risky.

If you separate the heifers for replacements then that's a great time to start with a MLV vaccine program. They can get 2 doses before returning to the breeding herd. After a few years all the cows will have a foundation of a MLV which provides superior protection and flexibility for vaccinating calves.

There is no such thing as a one-size-fits-all vaccination program so it is advised to work through a plan to integrate a MLV into your herd health program with your veterinarian. Since the MLV does provide superior protection, it is definitely worth the effort. However, no vaccination program can overcome poor biosecurity or poor nutrition programs. Those 2 things need to be in place before a vaccination plan can work.

Not all MLV are the same either. Some have adjuvants (improves response) and some are combined with other components. Make sure you get good advice from a knowledgeable source before vaccinating your cows.

Read and follow ALL label recommendations before using vaccines in pregnant cows or calves nursing pregnant cows.



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