



ADCA Vaccine Handling

Vets Corner

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Vaccines have proven very effective in protecting cattle against common pathogens that threaten their health and reproduction. However, if used improperly, their efficacy can be greatly diminished, possibly putting your herd at risk for disease. In this article I am going to offer some vaccine considerations as we consider how we store, handle, administer, and clean-up vaccines.

Storage:

All vaccines require refrigeration at temperatures ranging between 2-7°C (35.6-44.6°F), however many refrigerators used to store vaccines are often the old ones that are kicked out of the house. Having a thermometer next to your vaccine is a good way to monitor how your fridge is doing. Frozen or warm vaccine can become inactivated or altered by the change of temperature. It is also important not to store vaccine in the door of the fridge as it is the warmest place and also the most variable with each opening of the door. Another important aspect of storing vaccines is to be aware of the expiration dates and disposing of any outdated vaccine.

Handling:

Proper handling of vaccines also plays an important role in their efficacy. Modified-live vaccines require mixing of a sterile diluent with the dried-"cake" portion of the vaccine. Transfer needles make this process easy as the cake portion is under vacuum and draws the fluid through the needle. Once they are mixed the vaccine is "activated" and must be used within 6 hours to be effective. Carrying over vaccine longer than 6 hours can actually be detrimental to an animal and add undue stress to their immune system (usually due to needle-contamination and inoculation of the vaccine with bacteria). Modified-live vaccines can also be inactivated by disinfectant; this is important to remember when cleaning syringes and also when handling needles (don't use disinfectant to clean needles between animals). One key note to remember when handling vaccine is to always use a clean needle every time you load a syringe with vaccine, keeping the bottle as sterile as possible. Also, when vaccinating cattle the vaccine should be kept cool in the summer (cold packs/cooler) and kept from freezing in the winter (hot water bottles). Sunlight can also reduce the lifespan of the vaccine so be sure to keep it out of direct sunlight.

Administration:

Before giving any vaccine it is crucial to know the route of administration. Cattle vaccines can be given orally, intranasally, intramuscular, or subcutaneously. The label must be consulted to confirm the proper route and dosage. Most intranasal vaccines provide disposable nasal tips to put on the syringe for administration, and these should be changed between each animal. The most common needles used for injectable vaccines in cattle are 16 gauge 1" for intramuscular injections and 16 gauge 5/8" for subcutaneous injections. All injections should be given in the muscular portion of the neck, often called the "triangle" due to the shape of the neck between the shoulders and the head. Care should be given to avoid the jugular vein on the lower neck. Intramuscular injections should go straight in at 90°, while subcutaneous injections should be given at a 45° angle in order to avoid the muscle. When vaccinating large groups of cattle, the needles should be changed every 10 animals (maximum), or at the first sign of a bent or contaminated needle. Never straighten a needle to reuse, as a needle that breaks in an animal can pose a serious threat to them. It is also important to be aware of the cleanliness of the site of administration, especially with injectable vaccines. Injecting through dirty or wet hide increases the risk of spreading disease or causing an injection site lesion.

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Clean-up:

The use of disposable equipment is preferred, however, when using reusable needles and syringes care should be given to proper cleaning. As mentioned earlier, modified-live vaccines are inactivated by disinfectants, so they should be either avoided or thoroughly rinsed following their use. Any remnant of disinfectant can neutralize the vaccine the next time you need to vaccinate. Heat-sterilization via boiling water is an effective way to sterilize equipment- followed by air drying. Needles should be disposed of in a specified "sharps" container. Most vaccine labels recommend burning the remaining bottles, but rinsing with disinfectant and placing in the trash is also acceptable.

Hopefully these simple steps will prove successful in maintaining a healthy, immunized Dexter herd! If you have any questions or topics you'd like to see addressed in a future Vets Corner article please e-mail me at: cowvet03@yahoo.com.