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Vaccine Handling and Storage

Vaccines are a normal part of standard procedures on most livestock operations. There are vaccines for young livestock, breeding animals and special health concerns. The highest quality vaccine may be of little value if not handled and stored properly. Even experienced producers may overlook key principles when preparing and administering vaccines and other animal health products. Product storage and handling is critical in ensuring that the efficacy of products has not been compromised.

Vaccines fall into two major categories; killed products which are generally more versatile and have a longer shelf life and modified live products who generally have a stronger immune response and very short window of time from mixing to administering. Modified live vaccines (MLV) must be reconstituted with a sterile diluent prior to administration. It is normally recommended that these products be used within an hour of reconstitution.

Either type of product should yield a good response when administered and handled according to label directions. Keeping products cool and out of direct sunlight is a common issue. Have you timed how long it takes you to process livestock? How long is the bottle or syringe being exposed to heat and UV light? You must especially exercise caution when handling and administering modified live products. Common handling techniques can render MLV products ineffective and even reduce the effectiveness of killed vaccines and other products. Maintaining a high level of efficacy is critical to establishing immunity in a majority of vaccinated animals.

Vaccine will have less than normal effectiveness if it has been stored improperly at any point it's lifetime. The starting point for success is purchasing vaccine from a reputable company, transporting to your refrigerator properly, followed by proper storage. Improper storage includes freezing, and/or exposure to heat or sunlight. Vaccines should be stored in a dependable refrigerator that maintains a consistent temperature (typically 35-45° F) as directed by the product label. Try to avoid storing animal health products in the refrigerator door and consider using a refrigerator thermometer to confirm temperature. Products that are out of date should be properly discarded.

Don't forget to handle the products appropriately while chute side. Chute side vaccine coolers work well for holding the vaccines during processing. These coolers have slots for holding syringes after they are loaded, and vaccines are placed inside the cooler to maintain temperature. These coolers can make excellent transport coolers when purchasing vaccines to keep the products at the recommended temperature on the way home. Vaccine coolers can be purchased ready to use, or can easily be constructed by converting small coolers for this intended purpose. Oklahoma State has a good factsheet with instructions for making an inexpensive vaccine cooler "[Chute Side Vaccine Cooler](#)" ANSI-3300.

The final consideration that often gets overlooked is maintaining proper records on the who, what, when, where, why and how of vaccine administration. It is also important to maintain a record of lot/serial numbers of products in the event of a recall or other situations that may arise. A quick and easy method of recording the lot and serial numbers while working cattle is to simply to take a photo of the information on the label with a cell phone camera. This information can be transferred to written or digital records at a later point, just remember to transfer!

Through proper record keeping, storage and handling, animal health products will be an effective piece of a comprehensive cattle health management program. K-State Research and Extension has a good comprehensive publication with more on this topic called "[Proper Handling and Administration of Cattle-Health Products](#)" MF-2603.