

June 20, 2017

FOR IMMEDIATE RELEASE

David Dugan

OSU Extension Educator, Agriculture and Natural Resources

Adams/Brown/Highland Counties

Ohio Valley Extension Education Research Area

## Do You Store Your Vaccines for Success?

With most of the crops in the ground, and at least a big part of the first cutting hay made, what do you turn your attention to next? If you have cattle it might be getting close to working calves through the chute for the first time. It is hot, the cattle do not always cooperate and you may not be looking forward to this job. Regardless if you are looking forward to it or not, it needs to be done. Since it needs to be done, one thing for sure is that you want to get everything you can out of the time spent. It may be little later than you would like for some things, but better late than never.

The list of things that could be taken care of as the calves are run through the chute might include fly tags, castration of the bull calves, a wormer in the form of a pour-on or injection and some vaccinations. The vaccinations may include a list of things, but here in southern Ohio it will most likely include a vaccine for blackleg, maybe pinkeye, and possibly some respiratory diseases. This will take some time, so with the June temperatures we have had the last couple of weeks it could be in the 70s or in the 90s. Taking care of the vaccines is the point. If you are doing all of these things to each calf it will take some time and with the warm temperatures you may want to think about how you store the vaccines chute side, but that is not the only time you need to pay attention to how you care for the vaccines. Keep in mind the store or veterinarian provides you an ice pack just to get it home. That should tell you that it needs to be kept cold. Letting it get warm and then chilling it again may be fine for some things like a soft drink, but not a vaccine. The following was in the Beef Blog and written by Gant Mourer from Oklahoma State University Extension and it addresses the care of vaccines all the way through.

Respiratory disease in cattle also known as BRD, shipping fever or pneumonia may cost the U.S. cattle industry over \$2 billion annually. Management techniques can offset much of this cost and having a good vaccination program can maintain the health of a calf all the way through the production system. A vaccine can cost over \$3.00 a head, and if not stored properly that vaccine can be rendered ineffective. Producers cannot afford to overlook the importance of how they store vaccine and handle it prior to injection.

Biological products should be stored under refrigeration at 35 to 45<sup>0</sup>F unless the nature of the product makes storing at a different temperature advisable. If vaccines are not stored within this temperature range, efficacy to the calf can and will be reduced. Killed vaccines are especially susceptible to freezing temperatures. Freezing a killed vaccine will alter the adjuvant or delivery system of a killed vaccine. This, in turn, negatively affects the immune response to the antigen in the vaccine. Modified live viruses (MLV) are more stable but can be in-activated if they are repeatedly cycled above or below the required temperature range. Also, once activated by mixing, MLV's effective life will be reduced to 1-2 hours and need to be maintained at the 35<sup>0</sup> to 45<sup>0</sup> F. This can be accomplished by only mixing the doses that you will use at that time and use a cooler to maintain temperature while working cattle.



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

CFAES provides research and extension programs to clientele on a nondiscriminatory basis. For more information: [go.osu.edu/cfaesdiversity](http://go.osu.edu/cfaesdiversity)

Researchers from the University of Arkansas and Idaho analyzed the consistency of temperatures for different types, ages and locations of refrigerators over a 48 hour period. They found that only 26.7% and 34.0% of refrigerators were within the acceptable temperature limit 95% of the time, respectfully. Refrigerator location can also effect temperature. Refrigerators located in barns (35.6 °F) were colder than in mud rooms (41.72 °F) and kitchens (40.82 °F). Temperature within a 24 hour period can also be highly variable for individual refrigerators. Troxel and Barham (2009) demonstrated some refrigerators may take up to 8 hours to cool down to the 45°F required or temperature can drop below freezing and range from 28.4°F to 44.6°F, while others will remain too cold varying from 24.8°F to 35.6°F over that period of time.

Producers need to be aware of these variations in temperature so they are able to adjust refrigerator temperature as needed. Thermostats can also be very variable from unit to unit, so keeping a thermometer inside works well to monitor and to make adjustments as need. Simple indoor-outdoor thermometers work well to achieve this goal. The outdoor unit can be placed in the refrigerator while the LCD display can be hung with a magnet on the door. This allows temperature to be monitored without opening the door and many models will record the high and the low temperature in a 24 hour period so producers can adjust accordingly.

How a producer handles vaccine outside of the refrigerator is important as well. Coolers can easily be modified for syringes and are important to maintaining vaccine efficiency chute side. Using a 1 ½' PVC pipe or sink tail piece purchased at any hardware store and a 1 ½' hole saw, inserts can placed through the cooler and work well to keep syringes cool and out of light while in use. Either ice or freezer packs can be used as a coolant to maintain temperature for several hours depending on outside ambient temperature. Make sure that enough coolant is used to maintain temperature while working cattle and extra ice may be needed if working cattle all day or during warm days. It may also take up to an hour for the cooler to reach the needed 45°F, so producers may need to plan ahead prior to processing cattle. Detailed instruction on the construction of a chute side vaccine cooler is available in [Oklahoma State University Fact Sheet ANSI-3300 “Chute Side Vaccine Cooler”](#).

These are a few simple suggestions that can help ranchers get the full value of the vaccine that they purchase. More importantly, positively affect the health of their herd, decrease sickness, and increase profit.

### **Dates to Remember**

- |           |   |
|-----------|---|
| June 28   | GAP Training for Produce growers at the Old Y Restaurant at noon. Call 393-2700 to register.  |
| July 5    | SOACDF (Tobacco Foundation) informational meeting at the Southern Hills Career and Technical Center at 10:30 a.m.   |
| July 6    | SOACDF (Tobacco Foundation) informational meeting at the Cherry Fork Gym starting at 6:30 p.m.  |
| July 10   | Pesticide Testing at the Old Y Restaurant at noon. Must pre-register at <a href="http://pested.osu.edu">http://pested.osu.edu</a> or call 800-282-1955. As always, this test is offered on the second Monday of each month. |
| July 9-15 | Adams County Fair.  |