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District Extension Agent
Livestock and Natural Resources

Vaccines

As kids headed back to school last month, their grownups had to make sure they were up to date on their vaccines. As we wean our spring calf crop, us grownups need to do the same thing for the animals in our care.

The biggest reasons for disease breaks in livestock often have little to do with the vaccine itself, but more to do with how that vaccine is handled and administered, says Dale Moore, director of Veterinary Medical Extension at Washington State University.

Vaccines are sensitive to heat and freezing and have special requirements for storage before use, she says. Always check the expiration dates on vaccine products, follow label directions, and be sure to keep vaccines refrigerated at the proper temperature until use.

Ultraviolet light can impair vaccines' effectiveness, particularly modified-live virus (MLV) products. Vaccines need to be kept cold and dark from the time of purchase through transport to your place, and until use. It's also important to know how the vaccine was stored before you obtained it. That means always purchasing from reputable sources, he says.

If you buy vaccines locally, take an insulated cooler for transport home, and use multiple ice packs. Even if you're only going five miles, take a cooler, because delays can always happen. Always check expiration dates before purchase. You want to make sure a vaccine won't expire by the time you plan to use it. Avoid buying something that will expire in just a few months.

If you use an old refrigerator in your barn or shop to store vaccines, make sure it works efficiently. Keep a thermometer in it – and check it regularly. In a University of Idaho statewide study, only 33.3% of the refrigerators used by 129 ranchers to store vaccine products were actually functioning properly 95% of the time. Many units were a little warmer or colder than ideal temperature, the study found. Meanwhile, University of Arizona studies found more than 76% of the refrigerators tested (at ranches, veterinary clinics, and retail outlets) were unacceptable for storing animal health products.

When working cattle, keep your insulated container in the shade, with the lid on it to minimize sunlight and dust contamination. If something happens to delay your work, don't just put your syringe down and forget about it. Even a short time in the sun can inactivate an MLV vaccine.

You can now buy specialized coolers, with holes in them, "like little holsters for syringe barrels – and ice bags inside the coolers – where you can stick the syringe into those holes. The barrel fits all the way in, with only the handle sticking out. This keeps the syringe contents cool and out of the sun when you aren't using it, without having to continually open the lid of the cooler. All you have to do is grab the handle of the syringe. I know lots of ingenious farmers and ranchers that can devise their own!

Always use a new, sterile needle for refilling syringes. Don't put a dirty needle into a new bottle, especially when mixing an MLV product. The product should always be going out the needle, and nothing coming back through unless it's a new needle, or it will contaminate the contents of your syringe.

When using MLVs that must be reconstituted, only mix the amount you'll use in one hour. Meanwhile, cow-calf producers who are working cows and palpating as well as vaccinating, while also maybe taking time to do some dehorning or other tasks, would be wise to buy vaccine in small bottles. That way, you can use up each one within that hour window. If it's mixed too long, it can lose effectiveness.

In many situations, 10-dose vials are preferable to 50-dose vials. Though the larger size may be more economical, you won't save money if the vaccine is compromised by the time you're using the last portion of that big bottle. Even a killed product can eventually get too warm if it's taken from the cooler periodically to refill the syringe.

If you know you'll be out at the chute all day, use an insulated container with an ice pack and take only the amount of vaccine you might use during the first few hours. When that runs out, get more from your refrigerator – and new ice packs.

Discard any leftover doses; they won't keep. Killed vaccines may be good for another day if they were kept cool, but always try to buy bottle sizes you'll be using up quickly. I've seen people buy clostridial vaccine for young calves in 50-dose bottles and take out just a few doses at a time. But the more times you puncture the lid, the more chance of contamination; soon, there's such a big hole that vaccine may come running out.

When working cattle and giving more than one vaccine, make sure you don't grab the wrong syringe when refilling. Color-code syringes with tape or label them. If you were to draw another kind of vaccine into the wrong syringe, it could inactivate that whole load or make it less effective. Putting an MLV product into a syringe that previously held your eight-way clostridial killed vaccine, for instance, could inactivate the MLV.

And keep checking syringes while you work cattle. Sometimes, you finish and have an extra dose or two (or run out too soon) and wonder why. Make sure you're actually giving a 2-cc dose, for instance. Some syringes may start leaking, and some plastic syringes may crack.

To minimize downtime, keep extra syringes and spare parts at the chute. Most producers have done this long enough that they know what they might need and can have it there at the chute in a tackle box. Nothing more aggravating to hold up the whole process while someone goes and gets another syringe or vaccine.

David G. Hallauer
District Extension Agent
Crops & Soils/Horticulture

Soil Testing Best Management Practices

One of the ‘baselines’ of a productive food/forage production system is soil fertility. It’s difficult to raise plants without adequate nutrients – from applied fertilizer and the soil – and determining that right rate/right product/right place combination starts with a good soil sample.

Soil sampling isn’t simply collecting a little dirt in a bag and sending it off for analysis. It starts by asking: why am I sampling? If evaluating poor growth or a uniformity issue, sample normal and abnormal areas separately to determine if a nutrient is the issue or something else. If trying to get an ‘average’ for the area, collect samples from across the field. If fertilizing according to precision zones/grids, lay out sampling points in advance to help you obtain information to guide the precision application process. If you participate in cost share programs requiring soil sampling, check program requirements in advance of sampling/testing.

Collect an appropriate number of cores. Single core samples simply aren’t accurate. because the variability is so high. Collect a minimum of 12-15 cores per sample. More is better.

Keep sampling depth consistent since nutrient levels can vary significantly with depth. For pH, organic matter, phosphorous, potassium, and zinc, sample to a six-inch depth. Sampling from varying depths can skew results if nutrients are stratified for some reason. When sampling for mobile nutrients (nitrogen, sulfur, or chloride), a two-foot sample depth is recommended.

Avoid ‘patterns’ when sampling. Zig zag back and forth rather than following planting, tillage or fertilizer application equipment. Non-uniform fertilizer applications *can* and *do* occur. Sampling in a random pattern helps offset potential uniformity issues. If grid sampling, collect accurate GPS coordinates that will allow you to return to the same area when sampling next time – then sample in a five to ten-foot radius around the center point for best results.

Watch for trends over multiple sampling cycles to get an even better idea as to how your nutrient management program is performing. For best results, sample at the same time of year (fall is an excellent time...) and following the same crop each time.

A soil sample is an inexpensive way to get good information about what the soil can provide for the growing crop, lawn, hay field, or garden while allowing us to make sound economic and environmental supplemental fertilizer application decisions based upon accurate information. For more information on soil testing – for crop, forage, garden, or landscape – contact any Meadowlark Extension District Offices or e-mail me directly at dhallaue@ksu.edu . Soil probes are available for checkout via any Meadowlark Extension District Office.

NOTE TO EDITORS: Please use the following as you see fit if applicable to your circulation:

HOLTON RECORDER: Soil test cost share assistance at a seventy percent level is available on a limited basis for various crop/forage soil test packages from the Jackson County Conservation District. If interested, contact the Jackson County Conservation District or Holton Office of the Meadowlark Extension District for details.

VALLEY FALLS VINDICATOR/OSKALOOSA INDEPENDENT: Soil test cost share assistance is available on a limited basis from the Jefferson County Conservation District for field crop and forage producers interested in a basic soil test package (pH/P/K). If interested, contact the Jefferson County Conservation District or Oskaloosa Office of the Meadowlark Extension District for details.

Cindy Williams
Meadowlark Extension District
Food, Nutrition, Health, and Safety

COVID-19 and Surfaces

When COVID-19 started in the U.S., there were concerns that the virus could be transmitted via surfaces and packaging. This caused consumers to buy cleaning supplies like never before and not using cleaners as directed.

As time has passed, the evidence supports that transmission of COVID-19 is primarily through respiratory droplets in the air. Therefore, the use of masks, handwashing, and keeping at least six feet distance from each other is critical.

For surfaces or packaging to be a problem, there has to be a unique set of events to occur. First, a large amount of the virus would have to be present; then, it would need to survive long enough to result in spread. Finally, without washing your hands, you would have to touch your face.

The few studies on this issue involved using high amounts of the virus, much more than what happens in a real-world situation. And, while it proved the virus could stay alive on surfaces, it did not prove transmission.

Excess or incorrect usage of disinfectants can cause skin irritation and respiratory health issues, especially for those with asthma.

Bottom line, wear your mask, keep your distance, and wash your hands. Do your part!

Halloween and COVID-19

Do you get lots of trick-or-treaters for Halloween? This year might be a little different. Is it safe for kids to take candy from strangers during a pandemic?

First and foremost, follow your community guidelines. Know the keys to keep healthy, avoid crowds, wash your hands, wear a face covering. The look of face coverings may be quite creative this Halloween! Even if you are outside, you may still be around a lot of other goblins, so wear those masks. Small groups are better than large groups.

Designate one person to hand out treats that are individually wrapped. Don't let the goblins dig into the bowl. Have hand sanitizer available for anyone to use.

Host a trunk-or-treat event and put extra space between cars to thin out the crowd. A Halloween drive-by parade in the neighborhood would be a spooky treat!

There is no need to wipe down the treat packaging. After trick-or-treating, wash your hands before snacking on those treats.

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Nancy Nelson
Meadowlark Extension District
Family Life

No News from Nancy.