

## The Top 11 Reasons Vaccines Fail



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Veterinarians and Ag Animal Extension educators receive numerous inquiries from livestock owners about what to vaccinate their cattle against. Although the diseases being vaccinated against are important, the biggest reasons for disease outbreaks often have little to do with the vaccine itself, but more to do with how that vaccine is handled and given, when it is given, and to whom. What you vaccinate for and when will depend on what the major problems are in your region and what your herd management plans are for calving, breeding, cattle processing and weaning. Your herd veterinarian can help you set up a schedule for giving the different kinds of vaccines for the different age groups, and help prevent you from spending money on vaccines you don't need.

Once you have the vaccines in hand and are ready to use them, what could possibly go wrong?

1. ***"Lefty brought the vaccines to the chute but left them on the dashboard of his pick-up for a couple hours."*** Vaccines are sensitive to heat and freezing and have special requirements for storage before using. Follow the label recommendations for refrigeration. Keep the vials of vaccine in a cooler until just before you use them.
2. ***"I thought we cleaned that syringe gun!"*** A dirty vaccination syringe OR one that still has disinfectant in it can contaminate or inactivate your vaccine. Never use disinfectants. Instead, use very hot tap water to clean your syringe gun. Take the gun apart as you are cleaning it and allow the parts to air dry and then lubricate the plunger. Store clean syringes in plastic bags and mark them for the kind of use they get – vaccines, vitamins, antibiotics, etc.
3. ***"What do you mean it's supposed to go in the muscle?"*** Read the label for WHERE the vaccine is to be administered. Some vaccines are labeled to be given under the skin in the neck regions, but some need to be given in the muscle. Read the label to be sure. Also – make sure whoever is vaccinating gets it in the right spot – putting it in the hair doesn't mount much of an immune response.
4. ***"Dusty—are you giving TWO cc's?"*** Read the label to make sure you know what the proper dose of vaccine is supposed to be given to get the proper immunity.
5. ***"We'll just leave the needle in the bottle until we have more calves to vaccinate..."*** Use all the vaccine up or discard if you are not going to use it all. If you leave a needle in the bottle, you can contaminate the vaccine. Once it has been mixed, it needs to be used up.



6. **“Booster?”** Many vaccines require a booster in 2 to 3 weeks in order to get the right level of immunity, particularly if it is the first time the calf or cow is vaccinated. Read the label to make sure when you need to booster.
7. **“We can vaccinate them just as they’re off-loading the trailer.”** Stressed calves do not react with a full immune response to the vaccine. In order for the calf to respond to vaccination, we must allow time to recover from the stress (like being trailered, weaning, etc). Plan to give the vaccine before or after a stressful event.
8. **“We stored it in the refrigerator, doc!”** University of Arkansas researchers found that “More than 76% of the refrigerators tested (ranch, vet clinics, retail) were unacceptable for storing animal-health products.” The recommended temperature for storing animal-health products requiring refrigeration is 35° F. to 45° F. Check your refrigerator to make sure it’s at the right temperature.
9. **“We’re having a problem with respiratory disease – can I vaccinate now?”** The vaccine must be given **before** exposure to the virus challenge and with enough time to allow the immune response to develop to a protective level, usually about 10-14 days following vaccination. But, if you have cattle that have not yet been exposed and think you have time for them to develop an immune response, vaccinating may help, but don’t be surprised if exposure had already happened and some get sick. The labels say that you need to vaccinate **healthy** animals.
10. **“I know these cows are thin, but we have to get them vaccinated.”** Animals on diets low in energy and/or protein may not respond with a good immune response. Also, a number of trace nutrients and vitamin deficiencies (copper, selenium, zinc, and vitamin E) can cause the cattle’s immune system to be unable to respond to vaccines properly.
11. **“If I vaccinate my calves really young, I’ll get a jump on disease!”** Calves that received colostrum from the cow will have some antibodies in its system. These “maternal” antibodies gradually decline but when they are still in the calf, can interfere with the calf responding well to the vaccine. This interference disappears some time during the first four months of life and is the reason boosters are recommended if vaccinations are given to young calves.



Vaccines are an **AID** to your other good management practices, like preventing disease transmission through biosecurity and providing good nutrition. And remember -- If you are going to market these animals in the very near future, make sure you read the label for the withdrawal time for meat. Every vaccine has a period of withholding the animal from slaughter. In fact, make sure you read the label for every vaccine or product you use so that you get the most for your money spent.

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