

Vaccinations Require Attention to Detail

By Charles E. Gardner, DVM

"I don't understand how this happened. I vaccinated the entire herd last fall. How can I have all these cows sick with Bovine Virus Diarrhea. I know that was included in the vaccine." I can vividly recall hearing this from a producer whose dairy herd had been devastated by a disease outbreak. Unfortunately, she had not carefully read the instructions that came with the vaccine. It was a killed virus product, which means animals needed a second dose a few weeks after the first one to be protected.

A well-planned vaccination program should be part of how you manage your herd. You and your veterinarian should plan it together, and you should understand what diseases are included and why they are relevant for your cows. You also need to be clear about when to give the vaccines, how many doses, and what side effects to expect.

For many years it was recommended that live virus products should not be used on pregnant animals. However, that has changed to some degree. There are now a number of live vaccines that can be used on pregnant cows *if* the animal has been previously vaccinated with the same product. In general, live vaccines give more protection than killed ones. There are exceptions to this rule, which is why it is important to involve your veterinarian in designing your vaccination protocol.

Sometimes we vaccinate pregnant cows to provide protection against diarrhea to the newborn calf. If so, it is essential that the calf receives adequate colostrum soon after birth, because the immunity is contained in the colostrum. The calf gets no protection just from the mother being vaccinated. So, if you use some kind of colostrum substitute, don't waste time and money vaccinating your dry cows for this reason.

Some vaccines are given intra-nasally or by mouth. Intra-nasal vaccines are for respiratory disease. By using the animal's airways as the site of exposure to the vaccine, more protection is generated there to resist a challenge in the same location by a disease agent. The same logic applies to oral vaccines. They are used to protect the digestive tract against diseases that cause diarrhea.

Some herds choose to simplify their vaccination program by doing the entire herd at once. Two doses two to three weeks apart of a killed vaccine are needed if the animals have never been vaccinated in the past. Milk production may drop significantly for a few days afterward. For this reason, it is better to do calves and heifers prior to them entering the milking herd, and then consider administering single booster shots later in life.

Keep in mind that for a vaccine to work, the animals must have an immune system in place that can respond to the vaccine and build resistance to the disease. Animals under stress may not respond. Therefore, it is best to avoid vaccinating animals in extreme hot or cold weather, or if they have just been shipped a long distance, or if any other type of stress exists. One final consideration is storage and dating of vaccines. Most products require refrigeration, and all have an expiration date.

Many times the difference between success and failure lies with attention to detail. In the situation described at the beginning of this column, the dairy producer missed the detail of a second dose. Make

sure you fully understand the use of vaccinations to protect the health of your herd. Then develop written protocols that ensure the products you chose are given correctly.