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# Bovine Virus Diarrhea (BVD) Vaccines

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Using modified live virus BVD vaccine has been the subject of much speculation. Cases have been observed where the vaccine seemed to have caused an animal to come down with BVD symptoms. Explanations offered were that (1) the animal was incubating the disease at the time of vaccination and the vaccination merely hastened the onset of the disease, or (2) the disease was not correctly diagnosed. The fact is, however, that if you vaccinate enough "normal" cattle with modified live BVD vaccine you will see some adverse effects.

Adverse effects are not frequent enough to merit discontinuing the use of the vaccine. When you use BVD vaccines that are presently available, be sure you use them on "normal," healthy animals because cattle under stress, those being treated with cortisones or animals affected with other factors which suppress disease resistance, are much more likely to have adverse reactions to BVD vaccine.

When using BVD modified live vaccines, also make certain the vaccine has been handled correctly. Building the immune reaction in the animal requires that the virus from the vaccine multiply in the animal's body after injection. The virus can be killed if the vaccine gets too hot, if it is mixed before use or if it is contaminated by chemical disinfectants. Do not mix BVD vaccine with other vaccines in the same syringe.

BVD vaccine is not recommended for use in pregnant cattle since it can cause fetal abnormalities, abortion or mummified fetuses. Vaccine has been used in pregnant cows in the last one-third of pregnancy when BVD has been diagnosed as the cause of

severe calf scours outbreaks. Cows are vaccinated then in an attempt to protect the calf by increasing BVD antibody in the colostrum milk or to cause the calf to have the disease and recover while it is still being carried by the cow. This practice is not recommended because severe problems may arise.

We are now evaluating this practice at the University of Idaho Veterinary Research Laboratory, Caldwell. This research may shed more light on the vaccination of pregnant cows to protect the calf.

A new killed virus BVD vaccine is also being developed at the National Animal Disease Center in Ames, Iowa. Laboratory and field trials suggest this vaccine could minimize vaccine side effects in calves and could be used safely in pregnant cows. The killed vaccine may require a yearly booster, whereas the modified live vaccine confers a long-lasting immunity.

The major problem in making a killed vaccine commercially available is to develop a method of growing enough virus to produce the vaccine economically. A dose of killed vaccine must have much more virus than a modified live virus vaccine to confer protection.

BVD is so commonly found in Idaho cattle that vaccination is generally recommended. Use the vaccine with care, however. Vaccinate only healthy lots of cattle. Vaccinate cows 30 days before breeding. Don't vaccinate cattle which are under stress or have another disease since those animals cannot respond well to the vaccine. If you plan to use BVD vaccine, seek the advice of your veterinarian so he can assess your situation.

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