

A PROGRAM TO COMBAT VIRUS DISEASES IN DAIRY HERD

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Viral agents have been recognized as important disease producing agents in cattle since the discovery of Bovine Virus Diarrhea in 1946. Since then numerous viruses have been isolated from cattle, but only a few of this number are known to produce illness. The most widely studied and best described viral diseases are Bovine Virus Diarrhea (BVD), Infectious Bovine Rhinotracheitis (IBR), and the virus of shipping fever (PI-3). It is becoming apparent that we have only touched the surface in isolating and studying the bovine viruses. This is evidenced by the isolation of over 300 bovine enteroviruses some of which appear to be involved in calf diarrhea and infertility. Viruses are thought to be involved in some cases of pink eye and certain bovine cancers.

Diagnosing viral diseases with certainty requires laboratory tests which frequently consume several weeks. This, of course, requires that treatment of sick animals be based on clinical diagnosis on the farm. It is a wise practice to try to obtain a laboratory diagnosis, however, to aid in planning health programs as well as to increase confidence in diagnosing future cases.

We must realize that health planning for a herd involves more than a vaccination program. In fact, the health of the herd depends on the over all nutritional and management practices of the farm. Proper nutrition, housing, handling and isolation practices can do much more for the control of viral diseases than a vaccination program. When vaccination is combined with good management and used at the right time it can be a very valuable tool in preventing excessive losses due to viral disease.

Unfortunately too little is known about the proper and best way to utilize the available vaccines. Veterinarians and drug companies have lacked much of the needed information to make sound recommendations on when and how often cattle should be vaccinated against these diseases. Only now is information becoming available to base our recommendations other than clinical evaluation of different vaccination programs.

Strong evidence is now available to show that cattle properly vaccinated for IBR remain protected for at least 5 years. Protection from BVD vaccinations in general are stronger and longer lasting than IBR. Not all cattle, however, respond to the vaccine though apparently properly vaccinated. This represents a small percentage of a herd, but may explain an occasional break in vaccinated cattle. It is quite likely that most breaks in vaccinated animals are caused by viruses other than IBR or BVD and misdiagnosed as one of the more common viral diseases. This would also explain why annual vaccinations do not seem to be adequate in controlling the problems which are thought to result from IBR or BVD.

Another problem which has become evident is that frequently cattle which have been exposed to IBR or BVD during hauling and vaccinated on arrival at the farm have a more severe case of the disease than unvaccinated cattle. Until recently pregnant cows should not be vaccinated for IBR. Now there are two vaccines which can safely be used on pregnant cows. One is an intra-nasal vaccine and the other is an inactivated vaccine.

The vaccination program will depend on the management and methods of adding new animals to the herd. In herds where replacements are raised on the farm and it is evident that IBR, BVD or PI-3 is a problem on the farm, a series of 2 injections should be given 2 months apart after the calf is over 6 months and at least a month before breeding. The second injection is to insure that a good immunity is obtained in case the first injection does not take. No further vaccinations with virus vaccines are necessary since immunity should last the average productive life of the cow.

Where frequent additions are being made to the herd from outside sources as from sales and etc., vaccination should be delayed until after the cow has been in the herd for at least a month. This is because cows early in the disease tend to have a more severe case when vaccinated than if left alone.

Annual vaccination of open cows with the virus vaccines is probably not necessary although it is widely practiced and recommended. If annual vaccination is important, you feel, to your herd then the use of one of the vaccines which can be used on pregnant cows should be tried. This would represent a savings in labor and time since the whole herd could be treated at the same time.

The immunity to the virus of shipping fever is not apparently as long lived as IBR or BVD. Most of the commonly used IBR vaccines do contain this virus though it can be obtained by itself. The use of this product, if it can be given 2 weeks before stresses as shipping, is highly recommended for controlling shipping fever especially in young cattle. Annual vaccinations in the herd have been suggested to reduce respiratory infections in the herd during the colder months.

Better recommendations should be made available as we learn more about the immunity and its duration in vaccinated cattle. The recommendations we have made now seem reasonable based on today's information and availability of new vaccines.