VACCINATION OF DAIRY CATTLE

Vaccination of animals is a form of animal health insurance and as in any insurance, it is possible to have too much, too little or the wrong kind. It is no more possible for me to tell you today in every instance what you should be vaccinating for than an insurance agent can tell you what insurance you should carry until I know the disease problems which exist on your dairy. I would like, however, to discuss with you some vaccines and immunizing agents which are available and some conditions in which they may be of value.

The first and probably the most important immunization that a calf gets if he is to live is colostrum. Calves should receive colostrum as soon after birth as possible. Recent work has shown advantage of milking 8 oz. of colostrum from the cow and giving it to the calf 15 minutes after birth (or at the time the calf is able to sit up). This insures that the calf gets colostrum early and before bacteria which can cause scours have had an opportunity to get into the calf's stomach. The calf is not able to derive much benefit from colostrum after 12 to 18 hours.

Hyperimmune serum given according to maximum suggested recommendations is helpful in cases where the calf does not get colostrum or receives it after 12 hours. Hyperimmune serum has been used routinely in all calves at the University of Florida Dairy for the last 5 months and appears to have a favorable effect. This favorable effect has not been reported by all workers, however, and certainly is not as helpful as early ingestion of colostrum.

Black leg and Malignant edema bacterins can be given after 2 months of age. If either of these two diseases are a serious problem on a dairy vaccinations can be given earlier in which case it should be repeated after 2 months. Since most dairies keep calves less than two months of age in stalls these two diseases are seldom a problem until the calves are put on pasture. In most cases, one vaccination after 2 months gives life time protection.

Brucellosis (Bangs Disease) vaccine can be given to dairy heifers at ages 3 to 8 months. It is best to give this as early as possible since late vaccinations are a common cause of false reactions to the Brucellosis Card and serum agglutination tests. Brucella vaccine should not be given to bull calves. At this time, the state of Florida pays part of the cost of this vaccination for this disease. Vaccinated heifers usually bring a premium when sold for herd replacements. This inoculation should not be given after 8 months of age.
Leptospirosis bacterin can be given to calves after 2 months. Since several types of leptospirosis have been found in cattle, it may be advisable to vaccinate for more than one type. A new vaccine will soon be on the market with most of these types included. Leptospiral vaccine should be given twice the first year at 6 months intervals and once a year after, in herds where it is a problem.

It is generally safe to vaccinate healthy calves for Blackleg, Malignant edema, Brucellosis and Leptospirosis at the same time. It is not too uncommon for calves, especially older calves, to have a reaction to the Brucellosis vaccine. This lasts from a day to as long as 10 days and is characterized by stiffness and partial loss of appetite. No permanent problems have arisen from the proper use of these vaccines and bacterins in my experience.

Vaccinations with the viruses of Infectious Bovine Rhinotrachitis (IBR) and Bovine Virus Diarrhea (BVD) need not be given until after 8 1/2 months since calves born to cows that have been exposed to these diseases or vaccinated will carry immunity which will block the favorable effects of the vaccination. As a general rule, the only dairy animals which should be vaccinated with these two vaccines are calves from 8 1/2 to 13 months of age. When calves are properly vaccinated with modified live virus vaccines protective immunity will be maintained for the average productive life time of the cow. Vaccination for these two diseases is strongly discouraged during an outbreak, since vaccination usually increases severity of the problem. IBR vaccinations have also been responsible for abortions when given during the time the cows were pregnant. BVD spreads so rapidly in a herd that when the disease has reached a stage that it can be diagnosed all members of the herd have already been exposed. There is much research which needs to be done in developing more stable and reliable vaccines for these two diseases. All of these now available are very sensitive to light and heat both before and after mixing with the diluent. After the vaccine is mixed, it must be kept cold and in a dark place and given with a syringe which has not been sterilized with chemical disinfectants. After the vaccine is mixed it must be used within an hour. Since the vaccine is so easily destroyed, a great number of cattle are vaccinated each year with vaccine which does not give any protection.

Parainfluenza virus which is an agent involved in shipping fever pneumonia of cattle can be given to cattle of all ages. The protection given to the calf from colostrum is quite short. Much work has been conducted in trying to increase the length of protection from the vaccine. It is for this reason some vaccines against PI3 are recommended to be sprayed into the nostril instead of injected in the usual way. The advantages of using one type of PI3 vaccine over another has not been clearly established. Vaccination of calves with this vaccine may have some real advantages in controlling respiratory problems in calves. In cows it is not highly recommended.