

Vaccine Selection: A Daunting Task

By Dr. Doug Myers

A key role of bovine veterinarians is to make recommendations they believe will improve the health and economic return of a client's cattle. Most veterinarians do not believe this role puts them in a conflict of interest; however, some may feel uncomfortable about recommending specific products such as vaccines to producers.

They could simply advise buying the cheapest choice, but does that ultimately serve the client's best interests? The question then is, what information should veterinarians consider when recommending vaccines?

There is a multitude of factors to consider. Some are based on science while others are based on marketing decisions. Some companies may offer an attractive rebate based on volume or bundling with other products. The clinic may find one company's sales representative offers excellent service and has built up a rapport over the years that will influence the decision. Some may base the decision on historical patterns -- "We've always sold that vaccine."

All approved vaccines available in Canada have had to jump through the same hoop in order to be approved by the Canadian Food Inspection Agency. While differences exist between antigens as well as changes over time with newer requirements, most vaccines are approved on the basis of being able to generate a minimum required titer as set out in regulations. For example, the minimum titer for a BVD vaccine to be approved is 1:8. All approved vaccines have had to meet this level. It is only to have an additional claim added to the label that challenge data might be required.

Additionally, until recently there have not been good challenge models for some diseases. We are beginning to see good challenge data with some of the more recently approved vaccines, which will be a major step forward. The tendency is to assume all vaccines are the same but in reality differences do occur.

All biologic companies have their own master virus or seed stock that they utilize when producing new vaccine. Some specific antigens offer a wider degree of cross-protection than others. Some antigens are derived from recently obtained field strains of virus or bacteria, while others may be older, more basic strains.

The most exciting new technology in the biologic field involves the use of advanced adjuvants. Adjuvants are incorporated to improve or prolong the immune response by the animal. Many older vaccines may have adjuvants that are quite primitive, resulting in less than an optimal immune response as well as a significant degree of irritation. We are seeing adjuvants being incorporated in some MLV vaccines which appears to be of benefit.

One of the important considerations a veterinarian must look at is whether the vaccine offers the antigenic combination he feels is appropriate. The blanket vaccine recommendation to give all the cows and heifers in a practice a 9- or 10-way vaccine may not be necessary.

To begin he must consider what antigen or antigens are most crucial to provide optimal protection, starting with the most important antigens and working backwards. For many cowherds in Western Canada, this should mean optimizing BVD titers. It may not be prudent, either from a science-based analysis or a cost-based analysis to vaccinate all animals in a practice with multi-antigen vaccines.

Another major factor to be considered is the trial work that is available from the biologics

manufacturer. Most companies will have a variety of information to sort through -- some of it valuable, some of it not. The veterinarian must evaluate the literature critically to see that the trial is properly designed, representative of his or her own practice and draws appropriate conclusions based on a valid statistical analysis.

Finally, a veterinarian must consider the support available from a company to investigate problems or questions that may be brought up by his client. There are a variety of vaccines to choose from. It is not a quick, easy decision. Most vaccines are adequate, the challenge lies in trying to find the excellent ones.

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