Calving Ease

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Do I Need a Calf Vaccination Protocol?

- **Why do we vaccinate?**
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- **What are the costs and benefits of a calf/heifer vaccination protocol?**
- **If I don't have a protocol, what are the steps to get one?**

Why do we vaccinate?

Vaccinating to create immunity is a way to manage disease risk. We know that through natural exposure dairy animals can develop immunity or resistance to diseases. Unfortunately natural exposure often results in sickness. Sick animals require treatment and may suffer permanent impairment.

Exposing our calves and heifers safely to these pathogens is the purpose of vaccination programs. On virtually all dairy farms our animals are at risk of one or more diseases. Therefore it is cost effective to vaccinate them to safely build immunity and reduce this risk.

In order to get a good return on our investment this kind of disease control strategy must reduce the number of treated animals. Vaccination program effectiveness depends on building resistance to infection among all (or nearly all) the calves and heifers. Once enough animals are protected through a good vaccination protocol they help protect other animals on the farm reducing the spread of disease. Click HERE for a short video explaining "herd immunity." Or, the link is http://www.vaccinestoday.eu/vaccines/what-is-herd-immunity/ .

What is a calf vaccination protocol?

A protocol is simply a plan. To work effectively most protocols need to written down. A calf/heifer vaccination protocol usually contains these elements:

- The animal(s) to receive the vaccine (for example, heifer rather than bull)
- The age of the heifer (for example, four months old)
- The vaccine name (for example, brucella abortus)
- The dose or volume for injection (for example, 2ml)
- The route of administration (for example, subcutaneously)

These items are repeated for each vaccine the heifers are to receive. For example, newborn calves might receive an intranasal vaccine; older heifers might receive a vaccine related to

reproduction before being moved in to a breeding pen. If the heifer needs to receive a booster injection of the vaccine in order to achieve effective protection from the disease the timing of this second injection is specified also. For example, the manufacturer recommendation for BVD vaccines may be a second injection 14 to 28 days after the initial injection.

Costs and Benefits of a calf/heifer vaccination protocol

The primary cost is time. The person responsible for calves and heifers must meet with the herd veterinarian to identify the disease risks for these animals. This is a veterinarian-client-patient-relationship. The veterinarian and dairy manager need to share on-farm knowledge of an individual farm's animals and disease patterns. The secondary costs are making sure the vaccines end up in the intended animals and purchasing the vaccines.

The primary benefit is improved calf and heifer health. Our goals are to: (1) reduce setbacks in growth due to illness and (2) to reduce permanent damage to the animals, especially from respiratory illnesses. For example, following vaccination protocols is one key element in reducing pneumonia treatment rates. Overton in a study involving over 3,000 heifers recently estimated that one pneumonia event among calves up to 70 days of age was associated with 15.4 pounds less weight at 90 days, they were 2.5 times more likely to die after 90 days of age, and they were less likely to ever have a calf or calved 6 months later.

If I don't have a vaccination protocol, what are the steps to get one?

Step 1. Establish and maintain a veterinarian-client-patient relationship (VCPR). This means that an animal health professional is familiar with the health issues of this particular dairy. By being on the farm regularly he/she is also knowledgeable about the effectiveness of various vaccines in reducing the need for treating calves/heifers for illness.

Step 2. Working with the veterinarian, make a list of the significant health risks for which vaccination is an effective means to reduce illness events that require treatment. For example, the combined stresses associated with weaning, ration and housing changes may reduce heifer's resistance to pneumonia.

Step 3. Write down a vaccination plan. Usually this is organized chronologically from birth to calving giving age for injections, vaccine used, dose and route of administration. Sometimes the specific location of the animals (e.g., the old Dobbins farm) helps, too.

Step 4. Plan to review the vaccination plan annually with the farm's veterinarian. Be sure to include all the folks working with these animals so that the "hands on" point of view is included. For example, a worker may note that animals in the prebreeding pen are being missed because too many of the headlocks are broken.

Reference: M. W. Overton, "Importance of Producing a Quality Dairy Replacement Heifer". Proceedings of DCHA, 2016, pp 55-59]

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Remember to search for "Calves with Sam" blog for profit tips for calf rearing.