Preventing Mastitis in Dairy Heifers Before Calving

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Dairy heifers represent a major investment in a dairy herd’s future genetics, production, and financial welfare. Prevention and treatment of mastitis in breeding age and bred heifers can directly impact somatic cell count, production, and potential profit after calving. Dr. Steve Nickerson, in a recent DAIReXNET webinar entitled “Managing Mastitis in Bred Heifers” discussed the importance and ways to prevent and treat mastitis in dairy heifers. This article summarizes his major points within his webinar’s discussion.

**Heifers don’t get mastitis—Right?** Few dairy heifers actually exhibit clinical signs of mastitis, such as a swollen quarter, before calving. However, in some herds greater than 75% of heifers between the ages of 12 and 15 months can have subclinical mastitis where the signs of a mastitis infection are not visible. When udder secretions are cultured, 30% of the quarters of heifers are infected with *Staph. aureus* with the other *Staphylococcus* species being the next most important contributors. Very few to no quarters are infected with environmental bacteria or coliforms. Good news, 90 to 100% of *Staph. aureus* infections can be cured when they are treated during this pregnancy.

**Why should we be concerned?** In pregnant heifers with *Staph. aureus* infections, scar tissue forms in the udder which reduces the amount of secretory tissue which can produce milk. These heifers produce 10% less milk their first lactation. To put this another way, milk production could be reduced by 2000 lbs as a first-calf heifer (assuming she would have produced 22,000 lbs of milk as a first-calf heifer). Thus, protocols for heifers related to udder health need to be developed with your veterinarian’s input to prevent new infections and to cure existing infections.

*Scabs on these teats were caused by horn flies*
How do heifers get mastitis? The teat skin is exposed to bacteria starting shortly after birth. These bacteria can penetrate the keratin plug, gain entry into the udder, and cause an infection. Also, horn flies can bite the teats, causing an irritation with the formation of scabs on the teats. These scabs provide a place for bacteria to colonize and grow. Horn flies also place additional bacteria on the teats and scabs.

Can these infections be prevented? Dairy heifers, like the lactating herd, need an udder health program to prevent new mastitis infections as well as a treatment program to cure existing infections. These protocols must be developed with the help and advice of your veterinarian since the use of antibiotics in heifers is an extra-label use of these drugs. Specifically, Dr. Nickerson recommended the following for you to discuss with your veterinarian based on his research:

a. Control horn flies!!! In herds with fly control, the number of heifers with infections was less than half the rate of those without fly control. The number of heifers with *Staph. aureus* infection was reduced 10-fold in herds with fly control.

b. To cure existing infections: With the advice of your veterinarian, use either a dry cow therapy 30 to 60 days prior to calving or a lactating cow-antibiotic therapy tube 14 days pre-calving. This protocol is an extra-label use of drugs. All antibiotic treatment protocols must be carried out under a valid veterinary-client-patient relationship (VCPR) where a licensed veterinarian familiar with your herd prescribes this treatment and the antibiotic to use. When infusing the products recommended, remember to use alcohol swabs to disinfect the teat and teat end, partially insert the infusion tube cannula, and then dip teats with a post-milking teat dip when done.

c. To prevent new infections: Use an internal teat sealant, Orbeseal™ or Teatseal®, 30 days before expected calving date and remove at the first milking after calving. Be sure to (1) clean the teat, especially the teat end, with an alcohol swab, (2) compress the area at the base/top of the teat, (3) partially insert the cannula, (4) slowly infuse contents so sealant remains in the teat, and (5) dip teats with post-milking teat dip. If an antibiotic therapy is used, treatment should be completed before using a teat sealant and post-dipping teats.