



Northwest Veterinary Associates

May 2012 Newsletter



Prevent and Control Heifer Mastitis

Before they give their first drop of milk, many heifers have already acquired mastitis infections. How does this happen? Mastitis specialist Steve Nickerson, PhD, University of Georgia, shared his research findings and experiences at our most recent Franklin County Dairy Discussion Group meeting.

Heifer mastitis is caused by bacteria that enter the teat orifice from a variety of sources, including:

1. On the udder and teat skin, from which it may colonize the teat end and enter the teat orifice;
2. Harbored in the oral cavities of calves, which enter the teat orifice via suckling pen mates;
3. Present in the heifers' environment, including the soil, manure, and bedding materials;
4. Spread by biting flies that congregate on teat ends. Research has shown that horn flies transmit mastitis-causing bacteria as they feed on teat ends, causing lacerations of the tissue.

Evidence of mastitis infections in heifers includes swollen quarters, abnormal secretions (clots and flakes), and teat-end scabs. Nickerson has found that most infections are caused by *Staphylococcus Aureus* and other *Staphylococcus species* (coagulate negative Staph). Mastitis infections can be diagnosed as early as 6 months of age, and persist throughout pregnancy and into lactation.

When these infections are identified, Nickerson recommends treatment with commercial intramammary dry-cow therapy under the guidance of your herd health veterinarian. When starting your program, mastitis milk samples can be taken for culture by Northwest Vets. Many worry that sampling a heifer can lead to infection by disrupting the keratin plug, but as long as teat ends are properly sanitized, the sample is taken aseptically, and teats are dipped with barrier type product after sample collection, there should be no development of new infections. Treatment is indicated only in herds experiencing a 5% or greater prevalence of heifers calving with clinical mastitis caused by *Staph. Aureus*. The potential for residues at calving should be considered, especially in animals that calve early. Remember that residue testing should be carried out before mixing milk from treated heifers with herd milk.

Treatment of heifers during pregnancy with intramammary dry-cow product is advantageous because:

1. The cure rate is higher than during lactation, especially with *Staph Aureus*;
2. There are no milk losses from residue avoidance during therapy;
3. The risk of antibiotic residues is minimal;
4. Somatic cell count at calving is reduced;
5. **Milk production is increased approximately 10% in successfully treated animals**

Most of Nickerson's research focused on treatment occurring 2-3 months prior to calving, but treatment anytime during pregnancy was shown to be effective. This means that timing of treatment can be tailored to what works in your herd. For example, heifers could be treated at pregnancy check or when moved to the pre-fresh pen. The other option is to treat heifers at freshening, however waiting until this time to treat chronic *Staph. Aureus* might be too late. A mammary gland that has been infected with

Staph. Aureus for several months to a year will not develop normally, and lactating intramammary treatment efficacy is drastically decreased.

Does heifer mastitis really matter? According to Nickerson, the greatest development of milk-producing tissue in the udder occurs during the first pregnancy; therefore it is important to protect the mammary gland from pathogenic bacteria to ensure maximum milk production during the first lactation. His studies have shown production losses in heifers with untreated *Staph. Aureus* infections can exceed 10%.

Take Home Messages:

- Mastitis is prevalent in breeding age and pregnant dairy heifers
- Most infections are caused by *Staph. Aureus* and other *staphylococci*
- Antibiotic infusions during pregnancy or two months prepartum are >90% effective
- Successfully treated heifers produce 10% more milk in early lactation
- Fly control reduces prevalence of heifer mastitis

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Important Updates:

Banamine (Flunixin) Milk Residue Test

A new Charm test is available and is being used to detect illegal Banamine (Flunixin) residue in milk. The test picks up Banamine down to 2 parts per billion. Proper dose level is 1 ml/100 # BW, so a normal 1400 # Holstein cow should get 14 ml once a day; and milk withholding time is 36 hours and meat withholding time is 4 days. **Proper route of administration is IV, only.** If given in the muscle, the new Charm test could pick up illegal residue for 30-220 days in milk. Banamine is the second most common violation in dairy beef and the main mistake is due to improper administration. Please take a minute to explain the proper dose and route of administration with all personnel on your farm who give Banamine to your cows.

Safeguard (Fenbendazole) approved in organic dairy replacement stock as emergency treatment

On May 15, 2012 the National Organic Program announced that Safeguard (Fenbendazole) can be used as an emergency treatment when approved preventive management fails to prevent parasite infestation. It will not be allowed for any organic slaughter stock. Milk and milk products from treated organic animals may not be labeled as organic for 90 days following treatment.

For organic producers who have participated in our annual Parasite Evaluation Clinic and been frustrated with controlling internal parasites in their replacement non-milking stock, we will now be able to offer another tool in improving the health of your growing young stock.