



CEDAR GROVE VETERINARY SERVICE NEWSLETTER



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THE MYTHS IN MASTITIS

Mastitis is one of the most important diseases that a dairy farmer deals with daily. Between 1995 and 2015, data has indicated the number of cases of clinical mastitis doubled from 13 to 26% of lactating cows even though SCC has decreased nationally. Mastitis constitutes the most common use of antibiotics on the farm. Because of mastitis's importance, this article will review some of the myths regarding mastitis and its treatment. This information should be used in conjunction with the input of a veterinarian to establish protocols that will benefit the cows and promote responsible antibiotic usage on the farm.

Myth #1: All cases of mastitis will become severe/toxic cases of mastitis.

Mastitis is a disease of the mammary gland that is detected based on observation of inflammation due to infection. Cases can be defined as subclinical (observation of elevated SCC with no abnormal milk), clinical

(observation of abnormal milk and inflammation), and severe/toxic (cows show physical symptoms such as fever and inappetence in addition to abnormal milk). Only about 10-15% of cases of clinical mastitis will become cases of toxic cases of mastitis. These cases are usually the result of a combination of prior cow health, organism, and environment. Severe cases are considered true medical emergencies and require more extensive treatment for the health of the cow.

Myth #2: All mastitis intra-mammary treatment products are created equal.

Historically, mastitis treatments were developed for the most problematic mastitis pathogen of the time, which was *Streptococcus agalactiae*. The good news for the farmers of yesteryear was that this pathogen was highly responsive to many of the treatments developed. The problem for modern farmers is that many of the products and protocols used for mastitis

DO YOU KNOW YOUR ANTIBIOTICS?

Polymast

Use: Indicated for use in lactating dairy cattle for the following treatments:

- Clinical mastitis associated with:
 - *Streptococcus agalactiae*
 - *Staphylococcus aureus*
 - *Streptococcus dysgalactiae*
 - *Escherichia coli*

Dose: Infuse one (1) syringe into each affected quarter every 24 hours for up to 3 treatments

Special Notes:

-Reinfection may occur unless good herd management, sanitation and mechanical safety measures are practiced.
- 72-hour milk discard period and a 10-day pre-slaughter withdrawal period following the last treatment.

treatments have not changed much in the intervening time, but the pathogens causing mastitis have changed. *Staph. aureus* pathogens are very unresponsive to treatment with any available products. Clinical mastitis caused by *E. coli* have high rates of spontaneous cure (close to 90%) meaning that antibiotics can be inconsequential to the treatment of clinical cases. Other pathogens (yeast, *Prototheca sp.*, *Mycoplasma sp.*, *Klebsiella*, and others) are intrinsically resistant to all approved antibiotics. There is no one class of antibiotics that will be equally efficacious against all pathogens. Information from culture data in clinical mastitis cases and an evaluation of the farm to determine the pathogens that are likely to be present is the best way to make appropriate treatment choices. It should be noted that the appearance of the abnormal milk is NOT a reliable indicator as to the type of infection that is occurring in the cow nor should it be used to drive specific treatment choices.

Myth #3: Inflammation (abnormal milk, hard quarter, pain, and swelling) will resolve faster in clinical cases of mastitis with treatment of antibiotics. Occurrence of abnormal milk is the most

obvious symptom of mastitis and is what most farmers use as a measure of when a cow is "cured." This seems like a logical conclusion since the aim of mastitis protocols is to improve the cow's health and to be able to ship saleable milk. However, new research has shown that reduction of inflammation and abnormal milk has little variation regardless of treatment protocol. It has been shown that with or without treatment, return to normal milk is expected to occur within 4-6 days in otherwise healthy cows. Moreover, disappearance of clinical signs does not always mean that the cow is cured or that the SCC will be normal. Therefore, if milk is not normal after a 2 or 3-day treatment protocol, it may not immediately indicate that an extended or a different treatment is needed.

Myth #4: All cows with clinical mastitis should be treated to achieve maximum cure rates. The efficacy of antibiotic therapy is not equal for all cows. Cows that have had a previous diagnosis of mastitis caused by a resistant pathogen (*Staph. aureus*, *Mycoplasma bovis*, *Prototheca sp.*, *Serratia sp.*, or yeast) will not usually benefit from the use of antibiotics. Cows that have a history of repeated

treatment for clinical mastitis (greater than 3 treatments in the current lactation) or a long history of chronically high SCC may not benefit from the additional use of antibiotics. Additionally, the use of intra-mammary antibiotics for cows that are also affected with another chronic disease may not be helpful. When treatment is indicated without culture data, it is best to use an intra-mammary product that is on-label for environmental pathogens (not *Staph aureus* since that is unlikely to respond and not *Strep. ag* since that is not a common pathogen anymore) for a short duration. Producers need to realize that the therapy will most likely be completed before milk returns to normal appearance. Longer duration therapy should be considered for cows with a history of several months of increased SCC or a previous short duration treatment in the same quarter.



