MASTITIS IN ORGANIC CATTLE

Guidance

Mastitis is a condition in which the udder tissue and mammary gland of a dairy cow becomes infected leading to inflammation, possible further medical complications, and a decrease in milk quality. There are two types of mastitis: clinical and subclinical.

Mastitis is caused by pathogenic microorganisms that invade the teat canal causing an immune response and inflammation in the mammary gland of the infected cow. These pathogens can be divided into two large groups based on the source of the bacteria: contagious pathogens and environmental pathogens.

The major contagious pathogens are streptococcus agalactiae, staphylococcus aureus, and mycoplasma species. The source of these pathogens is from infected cows. These organisms are well adapted to survival and growth in the mammary gland and are able to be transmitted to uninfected quarters and cows mainly during milking. Environmental pathogens include coliform bacteria and species of streptococci other than strep. agalactiae. The primary source of environmental pathogens is the surroundings in which a cow lives.

NOP REGULATIONS AND PCO POLICY

The National Organic Program (NOP) regulations require that livestock producers establish and maintain preventive livestock health care practices. When preventive practices and veterinary biologics are inadequate to prevent a sickness, such as mastitis, a producer may administer synthetic medications, provided that such medications are allowed according to the NOP regulations. If allowed medications fail, you must not withhold a medical treatment from a sick animal in an effort to preserve its organic status. All appropriate medications must be used to restore an animal to health when methods acceptable to organic production fail. Livestock treated with a prohibited substance must be clearly identified and shall not be sold, labeled, or represented as organically produced. *§205.238*

ADDITIONAL INFORMATION

SYMPTOMS

Clinical mastitis can be mild, moderate, or severe. Severe clinical mastitis can have symptoms of sudden onset, including:

- Increased temperature
- Increased heart rate
- Weakness

Sub-clinical mastitis will not have visual symptoms but cows will show:

- Increase in somatic cell counts in milk
- Potential decreases in milk production

Other symptoms include:

- Watery appearance, flakes, clots or pus present in milk

- Udder swelling, heat, hardness, redness or pain

BEST MANAGEMENT PRACTICES

Mastitis spread through contagious pathogens is most often contracted during milking time. Managing the transmittal of contagious pathogens include the proper care of the milking machine, milkers' hands, teat-washing materials, and treatment procedures. Spread of contagious pathogens can be greatly reduced by good udder hygiene and post-milking teat dipping.

Prevention of mastitis spread through environmental pathogens is best managed through cleanliness of the cow and its surroundings**.** Housed cows are at greater risk for environmental mastitis than cows on pasture. Sources of environmental pathogens include manure, bedding, feedstuffs, dust, dirt, mud, and water. Herd environments should be as dry and clean as possible. Appropriately managing bedding and stall clean-out, teat-dipping and udder preparation procedures, and milking machine cleaning procedures are all important factors for controlling mastitis caused by environmental pathogens.

Good mastitis management practices can also include:

- Routine milk testing: this allows farms to monitor milk quality and somatic cell counts
- Hygienic teat management: this includes good housing management, effective teat preparation and disinfection for good milk hygiene, teat health and disease control.
- Prompt identification and treatment of clinical mastitis cases: this includes the use of the most appropriate treatment for the symptoms.
- Dry cow management: dry cows off immediately and clean teats thoroughly.
- Complete milk out: ensure complete milk out of quarters that show signs of infection (with isolation of this milk from the bulk tank).
- Culling chronically affected cows: cull cows that become impossible to cure and represent a reservoir of infection for the whole herd.
- Regular testing and maintenance of the milking machine: with regular, recommended teatcup liner replacement and milking machine servicing and attention paid to items which must be checked on a daily, weekly or monthly basis.
- Good record keeping: of all aspects of mastitis treatment, dry cow therapy, milking machine servicing, Somatic Cell Counts and Bactoscan results, and clinical mastitis cases.

Treatment Practices

Non-steroidal anti-inflammatory drugs, or NSAIDs, such as aspirin and flunixin meglumine are often used for initial pain treatment of acute mastitis. Orally administered aspirin should be used with caution in acute coliform mastitis because it may lead to severe rumen atony. Other natural and homeopathic topical treatments may be used to treat clinical mastitis. Chlorhexidine teat dips may also be used to treat mastitis when alternative germicidal agents and/or physical barriers have lost their effectiveness.

Please note that chlorhexidine is not permitted intra-mammary to kill quarters; however, it is allowed as an udder flush with a veterinarian approved procedure with documentation. Finally, any feed additives or supplements used to reduce the somatic cell count must first be reviewed and approved by PCO.

APPROVED INPUTS

All inputs must be reviewed and approved by PCO prior to use, so be sure to check with us or consult a current PCO Approved Materials List, OMRI, or WSDA list prior to purchasing or using a product. PCO does not endorse any of the products listed in this guidance document. This is not an all-inclusive list and other inputs may be allowed. Please contact PCO if you have any questions on materials or restrictions.

- **Mastoblast** and **Masto Cream** by Washington Homeopathics
- **Royal Udder Care** by Van Beek Natural Science, LLC
- **Udder Comfort Spray – Yellow** by Udder Comfort

PCO is not endorsing the efficacy of any of the approved treatments, and producers should work with a trained professional to treat any distressed animals.

RESOURCES

- http://articles.extension.org/pages/11527/a-practical-look-at-environmental-mastitis
- http://articles.extension.org/pages/17567/a-practical-look-at-contagious-mastitis
- http://www.thecattlesite.com/diseaseinfo/179/mastitis/