

Mastitis – Prevention and Treatment

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Clinical and subclinical mastitis are major concerns for the dairy industry, and economically impact farms in multiple ways. Mastitis can affect your bottom line through:

- Milk discard
- Reduction in milk production
- Treatment costs, prevention costs
- Culling loss
- Death loss
- Labour costs
- Reduction in fertility

While many studies show the economic affects of mastitis, it is important to analyze data from Canada, as our system is unique. Aghamohammadi et al. (2018), estimated herd-level costs associated with mastitis on Canadian dairy farms. They reported the data in terms of a year in a herd with 100 cows – a 100 cow-year.

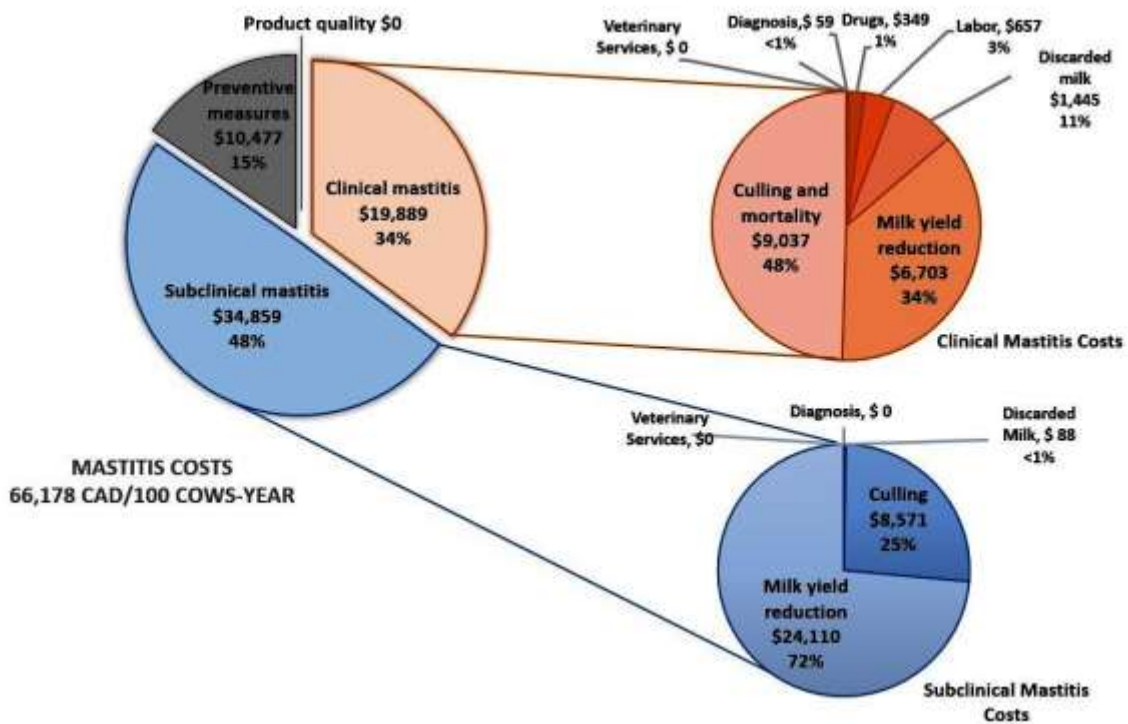


Figure 1 adapted from Aghamohammadi et al. 2018

Of note, is that the \$66,178 CAD figure did *not* include the impacts mastitis has on fertility.

Prevention

The highest risk period for acquiring new intramammary infections are during the dry period, with over 60% of new intramammary infections occurring at this time (Bradley & Green, 2004).

At dry off, the cow normally produces a keratin plug in each teat, which acts as a physical barrier to new infections. However, research has shown that up to 50% of teats remain open for the first 10 days, and up to 23% remain open for 6 weeks after dry off. For high producing dairy cows, around 46% will still have open teats at 6 weeks after dry off (Williamson et al. 1995)

Drying off a cow can be very difficult. The National Mastitis Council recommends a target of 15kg per day for cows that are due to dry off, which can be a hard target to reach. This goal can be achieved through the reduction of caloric intake, and intermittent milking. A change in environment and/or vaccination can also aid in the reduction of milk production.

Dry Cow Treatment

Most commonly used on Canadian dairies is “blanket dry cow therapy”, where every cow that is dried off is treated with an intramammary antibiotic. Some farms are moving toward Selective Dry Cow Therapy (SDCT), where individual cows are selected to be treated at dry off based on strict criteria. Farms moving towards this do so to reduce costs at dry off and reduce their antibiotic use.

However, SDCT will not work for every farm. It is important for farms considering SDCT to discuss with their herd veterinarian, and be aware of what the selection recommendations are for both your herd and individual cows. The following are recommendations from the University of Minnesota:

- **Herd Selection**
 - o Annual bulk tank SCC of less than 250,000 cells/mL
 - o Low numbers of *Staphylococcus aureus* and *Streptococcus agalactiae*
 - o Use of teat sealant in all quarters of all cows at dry off
 - o Proper intramammary infusion techniques consistently used
- **Cow Selection**
 - o Lactation SCC less than 200,000 cells/mL for all tests during the lactation
 - o No clinical mastitis in the last 14 days of lactation
 - o Less than 2 clinical mastitis cases during the current lactation

Whether you are using blanket dry cow therapy or SDCT, it is a good idea to monitor for contagious pathogens using routine cultures of clinical and chronic mastitis cases.

While culturing may seem less important now that we have so few intramammary drugs available, it is important to do so to prevent future cases. Culturing allows you to track whether your herd has environmental or contagious pathogens, and remove the cause accordingly. Knowledge is power, and the prevention of mastitis will begin with knowing which pathogens are on your farm.