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Preventing Coliform Mastitis

The last time we talked, I introduced my cow. 60 days ago, she was dried off and sent to the dry pen. Being the excellent farmer that I am, she had a perfect 60-day dry period with an ideal ration and lots of room to lay on soft, deep, dry bedding. Alas, the big day finally arrived, and she calved. She made it through the dry period! As I began to prep her for milking, I noticed her milk was abnormal, OH NO, she had mastitis. Even after a perfect dry period, she managed to freshen with mastitis. How on earth did this happen?!

Today, rather than talking about intramammary antibiotics, I thought we could talk about the dreaded coliform mastitis pathogens and how E. coli mastitis vaccines can be used to prevent coliform mastitis in my dear cow.

Coliform mastitis culprits are gram negative bacteria such as Klebsiella and E. coli. Both Klebsiella and E. coli are environmental mastitis pathogens that are commonly found in bedding, water, soil, and plant material. Most cows that acquire new coliform infections occur during the two weeks after drying off and the two weeks before calving. Once the cow freshens, the risk and susceptibility are highest in the first two weeks of lactation and decreases progressively as lactation advances.

Cows with coliform mastitis can be identified as animals with moderate to severe clinical mastitis (watery milk, overt clumps, clots, swelling, heat, and in severe cases – fever and systemic illness). These animals typically have high clinical mastitis rates with short durations.

Managing animals with coliform mastitis does not need to be overly complicated! First, identify the affected animals (remember: typically, fresh cows in their first 14 days of lactation). Ensure that their housing and environment has dry, clean bedding with clean alley ways. While in the parlour, ensure teat ends are clean and healthy, and always use an appropriate and approved pre-dip prior to wiping and attaching the milking units. Don't forget to ensure that dry cows and heifer facilities are clean and dry!

Aside from ensuring a proper environment and approved pre-dips are used, there are some vaccines that are labeled to help prevent coliform mastitis caused by E. coli. The two vaccines that Heartland offers are Enviracor J-5 and J-Vac. Before deciding on which product to use, please talk to your veterinarian as there are merits to each product that must be considered. Both vaccines are labelled for mastitis caused by E. coli. It should be noted that these vaccines do not reduce the number of infected animals with coliform mastitis but **reduce the clinical effects of those infections**. Studies show that vaccinated animals are much less likely to become systemically ill (by as much as 80%) and return to production sooner than unvaccinated cattle.

It is generally observed that one out of every five cows suffer from clinical mastitis and coliform mastitis attributes to 20-25% of these cases. With the cost estimates of coliform mastitis around \$662 per clinical case, using

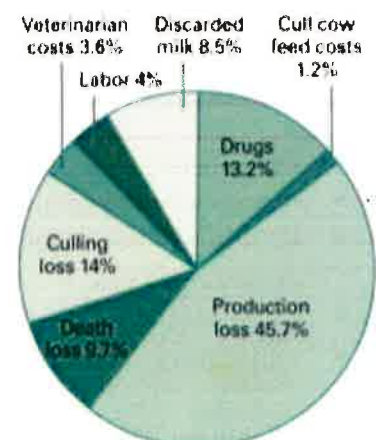


Figure 1:
Economic losses from
clinical coliform mastitis.

a coliform mastitis vaccine costing ~\$15 per animal can help farmers save in treatment costs, lost milk, culling and death.

E. coli mastitis vaccines are labelled to be administered two to three times to cows during their dry period and fresh period. Protocols designed to enroll all cows in the herd at the same time do exist for seasonal vaccination or to simplify the program. However, with these off-label programs, it is absolutely critical that the timing of each injection is correct in order to expect any kind of immunity from the vaccine protocol. If this kind of off-label program is something you are considering, please talk to your veterinarian first!

Talk to any one of Heartland's veterinary staff at your next herd health to discuss how coliform vaccines can help your mastitis issues. Don't forget that when mastitis strikes, the Heartland Veterinary Services milk lab is always available to culture abnormal milk to ensure you are offering your affected cows the best possible solution.

Alex Stavert, DVM

Veterinary Services During the COVID-19 Pandemic

Much has changed over the past couple weeks with the alarming presence of the COVID-19 virus in Ontario. During this time, it is important that we maintain a safe food supply. Our veterinarians will continue to play a role in animal health, welfare, and food safety. At the time of this writing, we are still providing herd health and emergency service. In response to the pandemic, our clinic is taking many precautions to ensure everyone's safety. We care very much about the health and wellbeing of our clients, staff, families and community. Below are some of the changes we have implemented. Please be aware that as this pandemic develops, we may have to adjust our procedures in response.

Veterinary farm visits

- Vets will be contacting farmers before our arrival to the farm to assess the level of risk, the comfort of both parties and to clarify our expectations for social distancing
- Once on farm, we will be wearing gloves during the visit and try to maintain a distance from people of at least six feet wherever practically possible
- Care will be taken to wash and disinfect hands and contacted tools and equipment before re-entering our vehicle

Technician farm visits

- Technicians will continue to assist veterinarians as necessary. The same precautions as above will apply
- Technicians will continue to provide services, such as dehorning, but we ask that no farm personnel are in the immediate vicinity during their visit

Clinic procedures

- Our clinic will remain open, but business hours may be subject to change
- Clients will not be let into the building but will be met at the door by one of our customer care representatives
- Purchases will be set out at the door
- Laboratory samples will be received at the door

We thank you for assistance in helping us continue to provide veterinary care while considering the health of yourselves and our staff.

Stay healthy!