Bovine Mastitis

What is bovine mastitis?

Bovine mastitis is a disease of cows that causes swelling of the udder, especially in dairy cattle. It usually occurs as an immune response to invasion of the teat canal by a variety of bacteria present on the farm, and can also result from chemical, mechanical, or thermal injury to the cow's udder..

What are the signs of bovine mastitis?

- Swelling of the udder and teat; single-sided swollen udder.
- Redness and pain of the udder.
- Milk has clots and becomes watery with blood streaks in some cases.
- An increase in body temperature.
- Signs of diarrhoea and dehydration including sunken eyes.
- Listlessness.
- Loss of appetite.
- Reduced milk production.
- In chronic and sub clinical cases, the teat canal gets thickened.

How is bovine mastitis transmitted?

- Milk-contaminated objects and materials at milking e.g. sponge used to wash the cow's teats, by the milker's hands, and by the milking machine.
- From the cow's environment to the teats at milking time or between milkings.
- Pathogens present on the skin infect the udder through the teat canal.
- Flying insects, especially the sheep headfly (Hydrotaea irritans).



Left quarter of the udder affected with mastitis

Which animal is susceptible to bovine mastitis?

- Cows milked using poor techniques and managed under poor hygiene.
- Cows with very dirty udders.
- Cows with teat-ends with no piece of thickened skin ring present/ weak teat sphincter.
- Cattle that are seven or more years.
- Cows in their 5th or higher lactation.
- High milk-yielding cows.
- Cows with retained placenta, uterine discharge or metabolic diseases around the time of calving such as milk fever.

Bovine mastitis is detected or diagnosed by use of;

- A strip cup to detect clots in milk at the beginning of milking.
- Individual Cow Somatic Cell Counts (SCC).
- Bulk tank somatic cell counts (BTSCC).
- California Mastitis Test (CMT).
- Milk cultures of clinical quarters.
- Electrical conductivity (Electrochemical measurement of neutrophil activity)
- Fully automated milking systems (robotic milking)
- Milk leukocyte differential test such as QScout Farm Lab-ready test, the QScout™ MLD
- Modified White Side test (MWT)

How do we prevent and control bovine mastitis?

1. Adopt good cow management practices of providing good feeding, housing and hygiene.
2. Reduce the chances of a cow getting infected with the mastitis causing bacteria;
   - Do not house cattle under dirty conditions, preferably change organic bedding materials daily or use sand for bedding.
   - Wash dirty udders with clean running water and dry with a disposable paper towel or a disinfected cloth and thoroughly dry it before milking.
   - After milking, dip or spray all teats with disinfectant.
   - Prevent occurrence of teat lesions or treat lesions immediately they are sustained.
   - If practical milk clinically affected cows last.
   - Disinfect hands before milking each cow, using individual paper udder cloths, dipping teat cups in disinfectant before each cow is milked.
3. Reduce the chances of pathogens penetrating the teat duct by;
   - Avoiding teat injury or fly attack.
   - Using a milking machine that is correctly tested, and maintained.
   - Using a milking machine modified to prevent 'reverse flow' and 'impacts'.
4. Reduce the duration of infections by;
   - Detecting clinical mastitis by examining foremilk or fitting 'mastitis detectors' into the long milk tubes.
   - Giving intramammary infusions of antibiotics under veterinary supervision to clinically affected cows.
   - Treating cows at drying off with infusions of antibiotics recommended by a veterinarian
   - Culling cows with repeated clinical mastitis.
5. Reduce mastitis in non-milking growing cattle or cows in the dry period;
   - Avoid using low lying grazing land and damp wooded areas where flies are common.
   - Avoid areas where flies are a particular problem, such as near rivers and woods.
   - Treat cows at drying off with antibiotics recommended by veterinarian.

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