

Unit 12: Mastitis Factsheet

Introduction

Mastitis means "inflammation of the mammary gland or udder".

This can be due to infection or injury.

The pathogen type that infects the udder is usually bacteria which have gained access through the streak canal.

The inflammation provokes an immediate immune response shown in the transfer of white blood cells into the milk to fight the invading bacteria, which in turn leads to a higher somatic cell counts in the milk and consequently reduced milk production.

Severity of disease

Classified according to symptoms

- **Acute** - cow severely ill
- **Sub-acute** - small clots in the milk
- **Chronic** - no pain and milk normal

Forms of mastitis

Mastitis is usually classified according to its visibility to the dairy farmer / herdsman

- Clinical mastitis
 - Sub-clinical
1. **Clinical mastitis** - heat, pain and abnormal swelling of the udder or infected quarter. Milk from infected quarters can be abnormal in consistency, with clots and may have a different colour.
 2. **Sub-clinical** mastitis is an infection of the udder tissues which does not give any signs of visible inflammation.

Mastitis in the dairy cow

Cows pick up the pathogen (disease causing organism) in one of 2 ways

- From another cow
- From the environment

Common mastitis pathogens

Type of bacteria	Usual source	Means of spread	Control measures
Streptococcus agalactiae	Infected udder	Cow to cow: i. milking machine ii. milker's hands iii. udder cloths	<ul style="list-style-type: none"> • Teat dipping • Lactation treatment (blitz therapy) • Apply strict milking hygiene • Dry cow therapy • Regular milking machine testing • Milk the infected cows last
Streptococcus dysgalactiae	Infected udder. Teat sores	Cow to cow: i. milking machine, ii. milker's hands iii. udder cloths	<ul style="list-style-type: none"> • Teat dipping • Lactation treatment • Apply strict milking hygiene • Dry cow therapy • Milk infected cows last
Staphylococcus aureus	Infected udder. Teat sores	Cow to cow: i. milking machine, ii. milker's hands iii. udder cloths	<ul style="list-style-type: none"> • Teat dipping • Lactation treatment • Apply strict milking hygiene • Dry cow therapy • Milk infected cows last • Culling chronically infected cows
Streptococcus uberis	Environment carrier cows	Cow to cow: i. milking machine, ii. milker's hands iii. udder cloths	<ul style="list-style-type: none"> • Improve housing hygiene • Teat dipping • Lactation treatment • Dry cow therapy
Escherichia Coli	Environment	Bedding Slurry	<ul style="list-style-type: none"> • Improve housing hygiene • Keep bedding fresh and dry • Lactation treatment • Frequent slurry scraping.

Mastitis control

The main objectives of any mastitis control programme are:

- ❖ To remove existing infection as quickly as possible
- ❖ To reduce the new infection rate.

The 5 point plan

- 1) Treat all clinical cases
- 2) Use dry cow therapy
- 3) Cull persistent and recurring mastitis cases
- 4) Use post-milking teat dip
- 5) Test milking machine regularly.

Target figures for mastitis are:

- ❖ Mastitis rate: a maximum of 30 cases per 100 cows per year
- ❖ Herd incidence: a maximum of 20% of cows affected per year
- ❖ Recurrence rate: less than 10%
- ❖ Tube usage: 4.5 tubes used per year per milking cow in the herd.

A case of mastitis is defined as one quarter affected once. If a cow calves down with mastitis in all four quarters, four cases of mastitis are recorded.

Mastitis in sheep

Mastitis in sheep is mainly caused by:

- Mannheimia haemolytica (formerly pasteurella)
- Staphylococcus aureus,

Other less common causes

- Streptococcus spp.
- E. Coli

Forms of mastitis in ewes

1. **Acute** - mastitis appears suddenly and is characterised by clinical signs such as redness, heat, and swelling of the mammary glands of the udder. Clotted milk or pus may also be drawn from the teats. This form of the disease often occurs in the first few weeks after lambing.
2. **Chronic** - mastitis is recognised by a shrinking of the tissues of the udder and/or the presence of lumps in one or both mammary glands
3. **Sub-clinical** - the udder and milk appear normal, however bacteria may be isolated from the milk

Treatment of mastitis

- Intramammary antibiotics
- Injectable antibiotics.

The exact antibiotic to use depends on the actual pathogen.