



MilkTech International



Teat Condition Introduction Factors and Assessments



© MilkTech International

1

Objectives

 The module will define terminologies to assess teat condition.





© MilkTech International

Teat Condition - Introduction 2

2

Assessing teat condition




 Teat condition is assessed by visual observation and palpation of teats.




© MilkTech International

Teat Condition - Introduction 3

3

Assessing teat condition

 Look for changes in:

Teat skin condition/integrity	Teat skin color	Teat end roughness
		

© MilkTech International

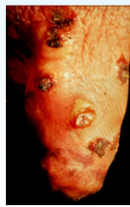
Teat Condition - Introduction 4

4

Factors of teat condition change

🐄 Factors influencing teat condition are classified in three categories:

- 🔴 Milking machine
- 🔴 Environmental
- 🔴 Infectious



Bacterial infection



Chapped skin in winter



Ring on teat base after milking

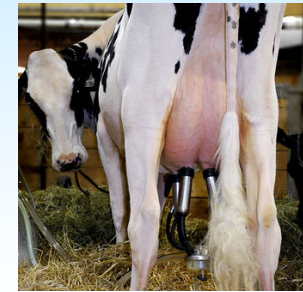
© MilkTech International

Teat Condition - Introduction 5

5

Teat condition changes associated with the milking machine are:

- 🐄 Discoloration
- 🐄 Swelling
- 🐄 Firmness
- 🐄 Vascular damage
- 🐄 Openness
- 🐄 Wedging
- 🐄 Ringing
- 🐄 Hyperkeratosis

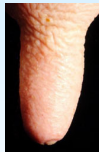


© MilkTech International

Teat Condition - Introduction 6

6

Example of milking machine effect: Discoloration



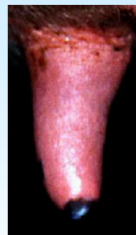
Normal, pink color



Red teat



Blue teat



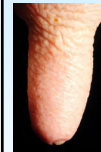
Within one minute of cluster removal, part of or all the teat is reddened, or tinged with a blue/purple color indicating congestion.

© MilkTech International

Teat Condition - Introduction 7

7

Example of milking machine effect: Swelling at or near the teat base



Normal, no swelling



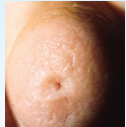
Within one minute of cluster removal, the upper part of the teat has a visible swelling caused by contact with the liner mouthpiece lip.

© MilkTech International

Teat Condition - Introduction 8

8

**Example of milking machine effect:
Firmness at or near the teat end**



Normal,
soft and supple



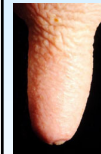
Teats that are swollen or firm or,
in extreme cases, hard and
unresponsive to touch.

© MilkTech International

Teat Condition - Introduction 9

9

**Example of milking machine effect:
Vascular damage**



Normal,
vascular integrity



Petechia



Haemorrhage

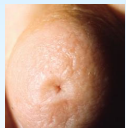
Teats with evidence of petechial
haemorrhage or more extensive
haemorrhage of the skin.

© MilkTech International

Teat Condition - Introduction 10

10

**Example of milking machine effect:
Openness of teat orifice**



Normal,
closed orifice



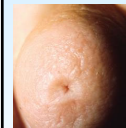
Within one minute of cluster removal,
the teat end orifice shows more than
2mm in wide or deep.

© MilkTech International

Teat Condition - Introduction 11

11

**Example of milking machine effect:
Wedging of teat end**



Normal,
round shape




Flattened shape of the teat end due to the
compressive load applied by the opposing
walls of a collapsed liner.

© MilkTech International

Teat Condition - Introduction 12

12

Example of milking machine effect: Ringing of teat base



Normal, no ring

visible

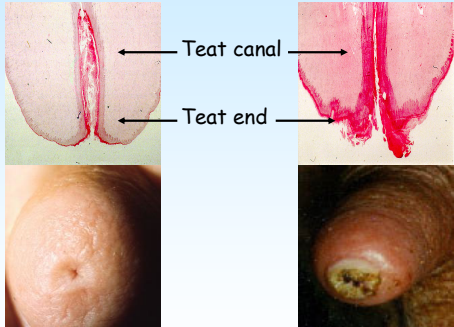
visible and palpable

The upper part of the teat has a visible and/or palpable thickened ring.

© MilkTech International Teat Condition - Introduction 13

13

Example of milking machine effect: Hyperkeratosis of teat end



Teat canal

Teat end

Thickening of the skin of the teat end giving roughness, cornification or callus formation.

Normal, smooth


Hyperkeratosis, rough

© MilkTech International Teat Condition - Introduction 14

14

Teat condition changes associated with the environment are:


- 🐄 Teat skin roughness/Chapping
- 🐄 Weather damage
- 🐄 Photosensitization
- 🐄 Allergic reaction
- 🐄 Chemical damage
- 🐄 Insect damage
- 🐄 Suckling damage
- 🐄 Other abrasions and cuts



© MilkTech International Teat Condition - Introduction 15

15

Example of environmental effect: Teat skin roughness/Chapping



Normal, smooth skin

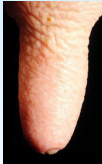
Teat skin roughness: dryness of teat skin.

Chapping: horizontal skin fissures.


© MilkTech International Teat Condition - Introduction 16

16


**Example of environmental effect:
Weather damage**



Normal,
smooth skin



Sun: sunburn,
inflammation
and blistering
of the teat skin

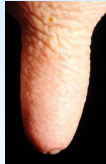


Cold: teats initially appear
reddened or pale. When
severe, skin can die and
eventually drops off
(frostbite).

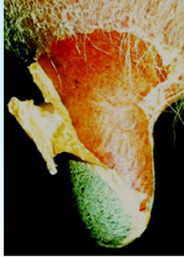
© MilkTech International Teat Condition - Introduction 17


17

**Example of environmental effect:
Photosensitization**



Normal,
healthy skin



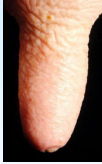


Unpigmented areas of teat skin develop
redness and edema followed by weeping
(Photosensitive dermatitis). Severe cases
can result in necrosis or gangrene.


© MilkTech International Teat Condition - Introduction 18

18

**Example of environmental effect:
Allergic reaction**



Normal,
healthy skin

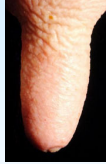


Teat skin develops rash, itching and
edema. Eventually skin and hair may be
shed. Allergic reaction can be systemic and
include the udder.


© MilkTech International Teat Condition - Introduction 19


19

**Example of environmental effect:
Chemical damage**



Normal,
healthy skin



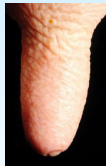


Teats appear dry and roughened, often pink
teats are reddened, especially distally.
High concentrations may induce hyperplasia
and leathery appearance of the teat.

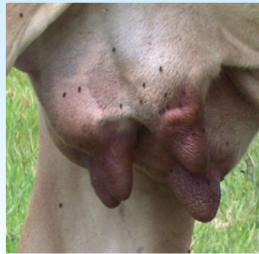
© MilkTech International Teat Condition - Introduction 20

20

Example of environmental effect: Insect damage



Normal,
healthy skin



Puncture or enlarged wounds caused by insect bites. Reaction to the bite and secondary bacterial or viral infection can be seen.



© MilkTech International

Teat Condition - Introduction 21

21

Example of environmental effect: Suckling damage



Normal,
healthy skin



Suckling by other animals results in lesions caused by teeth that are similar to chaps but are vertical on the teat.

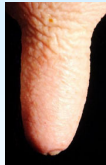


© MilkTech International

Teat Condition - Introduction 22

22

Example of environmental effect: **Other abrasions and cuts**



Normal,
skin integrity



Cuts are usually caused by hooves when cows are rising or lying down.



Multiple laceration caused by barbed wire.

© MilkTech International

Teat Condition - Introduction 23

23

Teat condition changes associated with infectious microorganisms:



Virus

- Pseudocowpox, Herpes mammillitis, Papilloma, Cowpox, Foot and Mouth Disease, Vesicular stomatitis



Fungus

- Ringworm



Bacteria

- Staph. aureus, Strep. dysgalactiae, Arcanobacterium pyogenes, Fusiformis necrophorum



© MilkTech International

Teat Condition - Introduction 24

24

Example of infectious effect:
Pseudocowpox

Normal

Early stage: red lesions
Later Stage: raised, circumscribed lesions with dark red centers. A characteristic ring or 'horseshoe' shaped scab may be seen when crusts fall away.

© MilkTech International Teat Condition - Introduction 25

25

Example of infectious effect:
Herpes mammillitis

Normal

Numerous, raised, oedematous plaques about 1-2 cm in size. The skin sloughs off leaving raw ulcers that are subsequently covered with dark colored scabs.

© MilkTech International Teat Condition - Introduction 26

26

Example of infectious effect:
Papilloma

Normal

Appearance varies with strain of virus from 'rice grain' in appearance to fronds.

© MilkTech International Teat Condition - Introduction 27

27

Example of infectious effect:
Cowpox

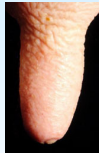
Normal

The lesions develop as an erythema, forming a pustule that ruptures and then suppurates.

© MilkTech International Teat Condition - Introduction 28

28

Example of infectious effect: Foot and Mouth Disease

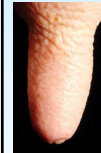


Normal



Occasionally, the virus causes vesicular lesions and erosions on teats before they appear in the mouth.

Example of infectious effect: Vesicular stomatitis

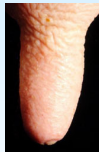


Normal



Lesions similar to, and need to be differentiated from, foot and mouth disease.

Example of infectious effect: Ringworm

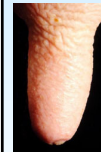


Normal



The infection of skin keratin by the fungus *Trichophyton verrucosum* occasionally spreads to the teat. It is recognized by the characteristic grey-white and ash-like skin encrustation.

Example of infectious effect: Bacterial infection



Normal




F. necrophorum: lesions look like craters with raised edges and have a black spot of ulceration or scab in the centre. They often involve the teat end.



Primary bacterial infections present as pustules.

Conclusion

 This module covered the following topics:

- ❶ Assessment of teat condition
- ❷ Terminologies of teat condition change
- ❸ Factors of teat condition change

