Mastitis Management achieve 100,000 in Once a Day Herds

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Once a day:

- Positives:
  - General health i.e. lameness, fertility
  - Labour
  - Milk Composition.

Challenges:

Scc/Mastitis a significant challenge esp. Staph Aureus mastitis.

Chronic infected cows risk to herd.

The risk periods

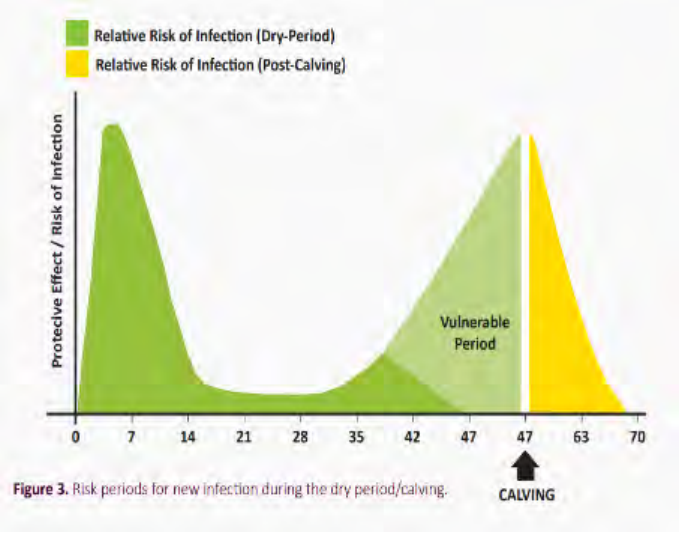


Figure 3. Risk periods for new infection during the dry period/calving.

~ 60% of all early lactation mastitis cases originated in the dry period

Green et al. 2002

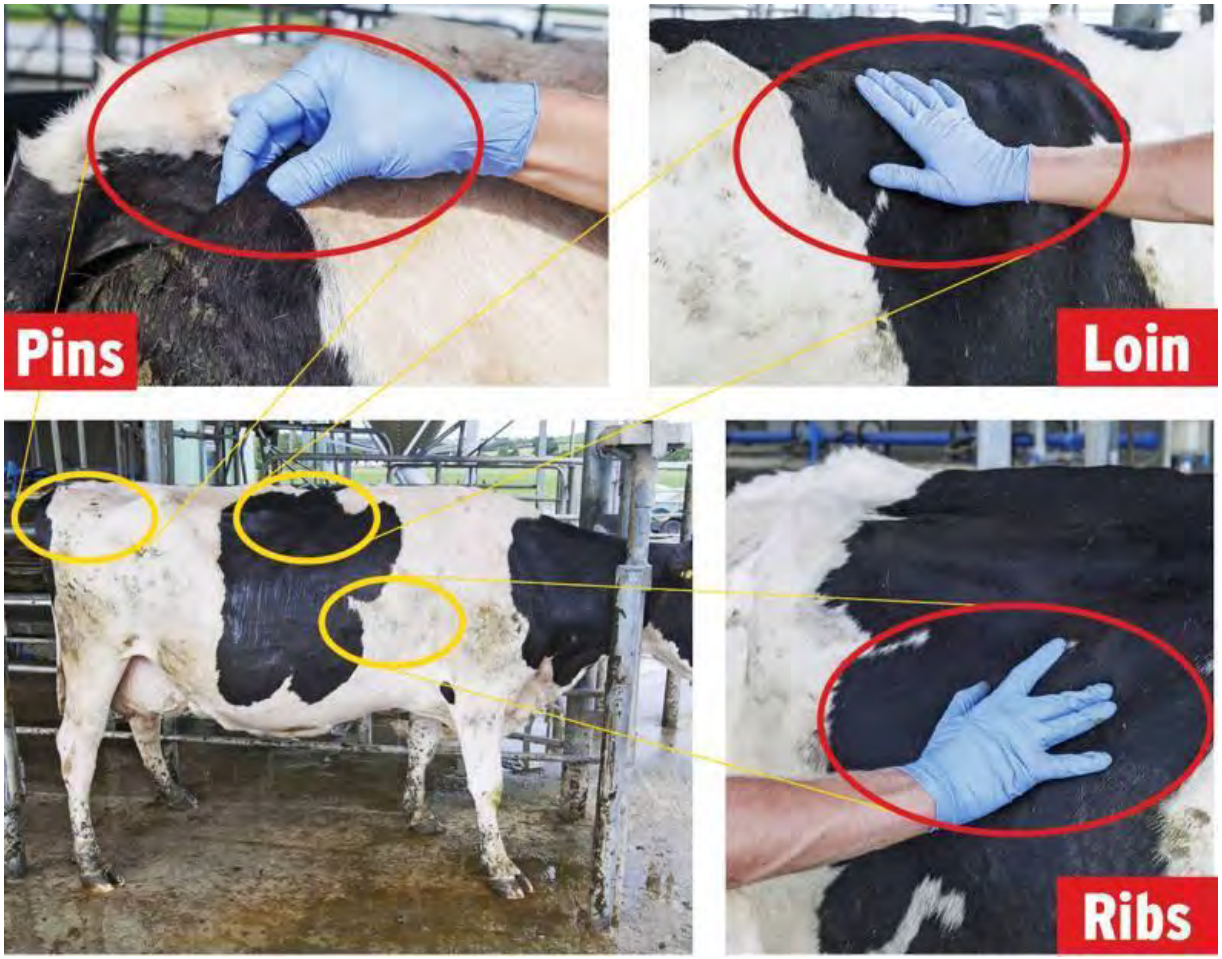
Risk period

- 3 weeks to calving
- 1 week to calving
- 1 week post calving
- Early Lactation.

Assess body condition score

- Regularly assess body condition often cows over fat.
- Metabolic disorders.
- Jersey Xbred prone to milk fever, high risk of mastitis.

Body Condition score,



Get another opinion

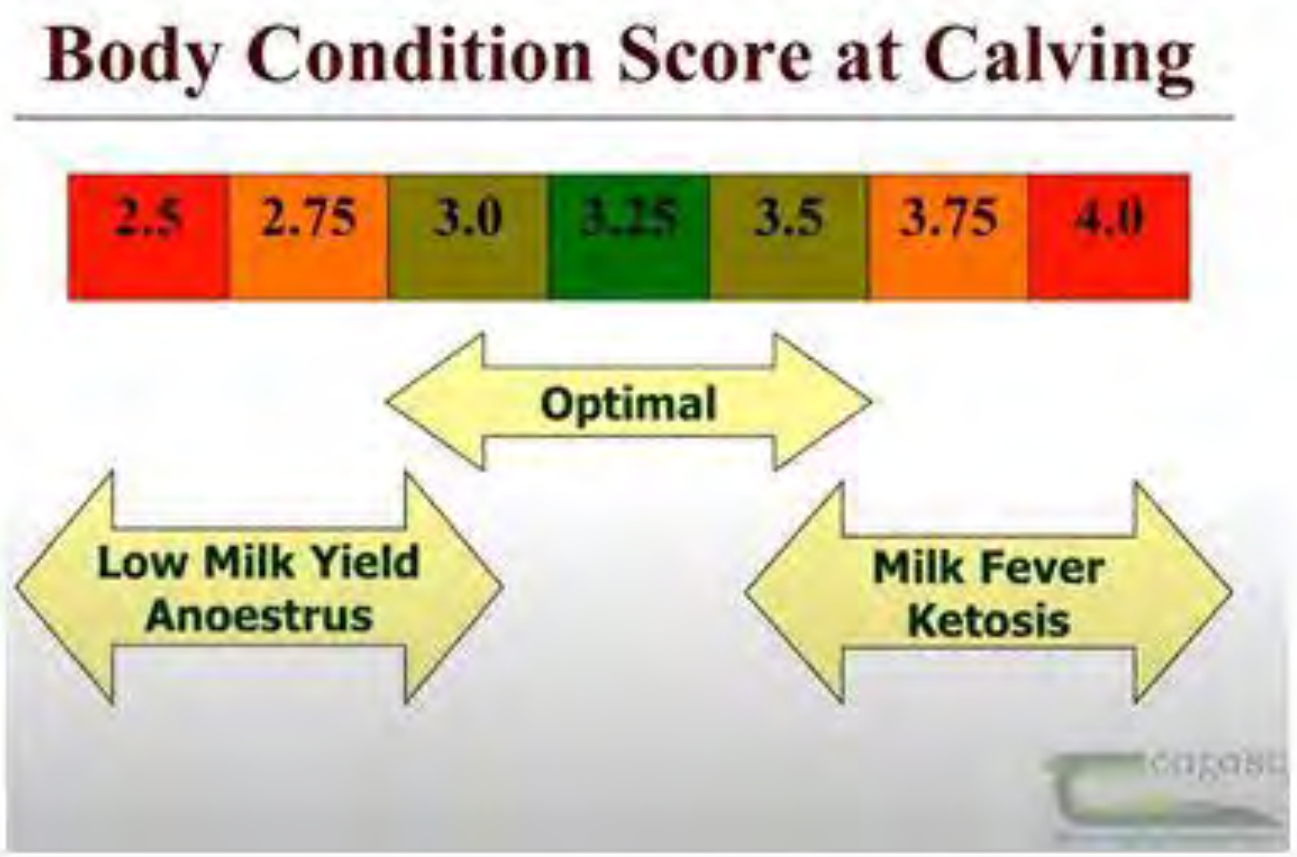
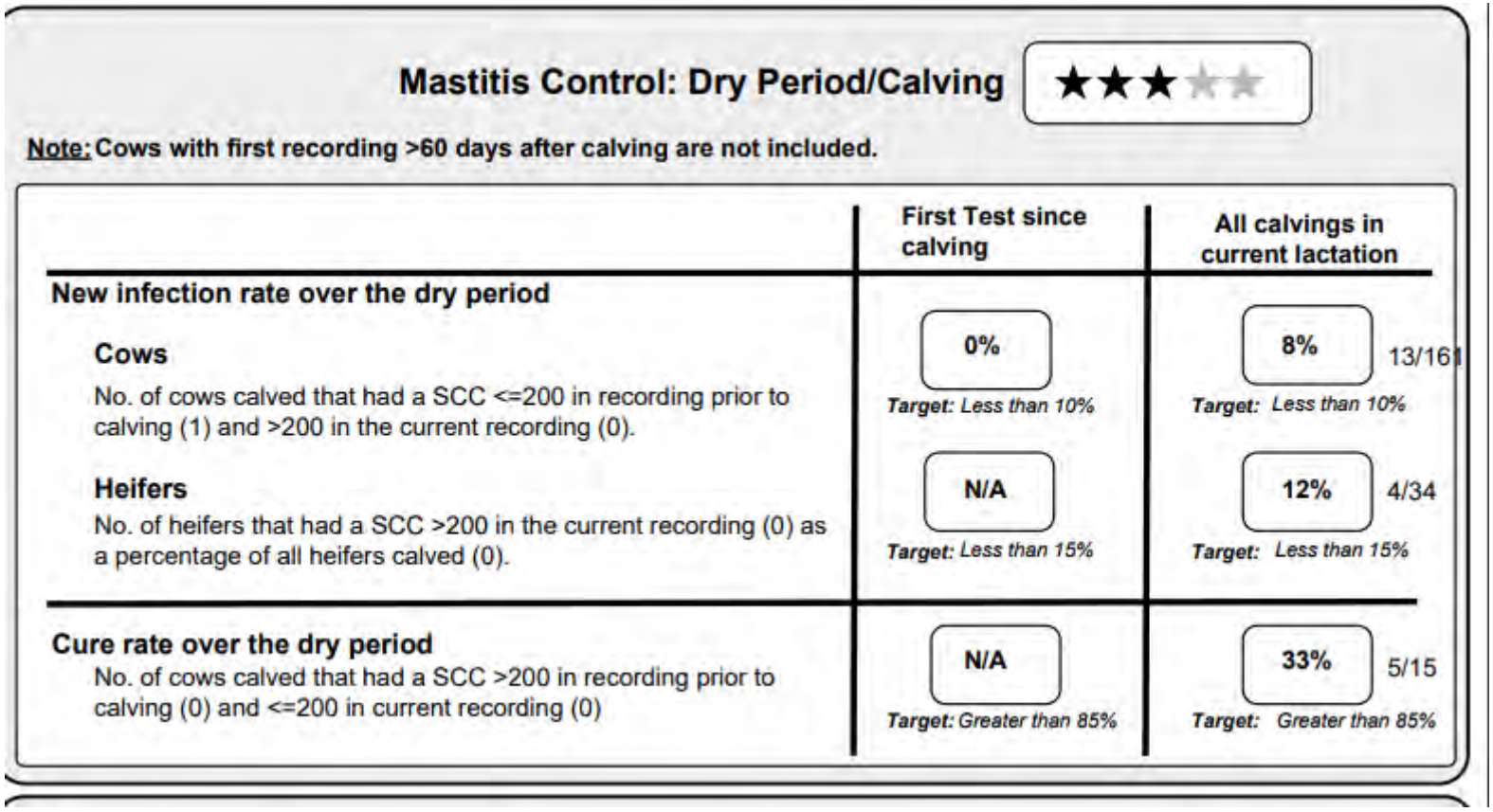


Figure 1Target BCS for cows at calving

Looking back to prepare for the future

- Look Back to assess issues
- Cell Check report sheet.
- Actions to take.

Need to look back and see what issues arose last year. Be prepared.



Mastitis Control: Dry Period/Calving ★★★☆☆

Note: Cows with first recording >60 days after calving are not included.

	First Test since calving	All calvings in current lactation
New infection rate over the dry period		
Cows No. of cows calved that had a SCC <=200 in recording prior to calving (1) and >200 in the current recording (0).	0% *Target: Less than 10%*	8% 13/161 *Target: Less than 10%*
Heifers No. of heifers that had a SCC >200 in the current recording (0) as a percentage of all heifers calved (0).	N/A *Target: Less than 15%*	12% 4/34 *Target: Less than 15%*
Cure rate over the dry period No. of cows calved that had a SCC >200 in recording prior to calving (0) and <=200 in current recording (0)	N/A *Target: Greater than 85%*	33% 5/15 *Target: Greater than 85%*

munster cattle breeding group

CellCheck Farm Summary

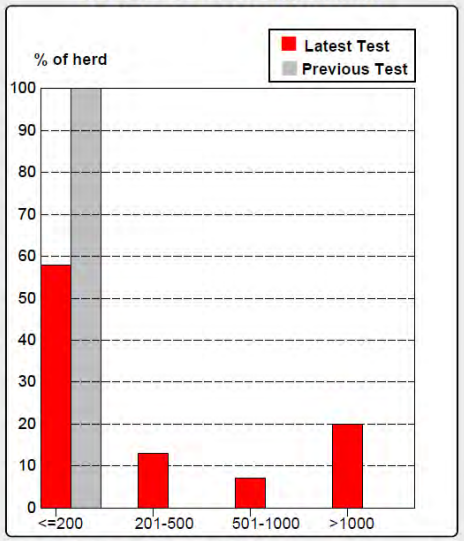
Milk Recording Date : 21/03/14

Name : **SAMPLE**
Herd ID : **IE111111**
Scheme: A6

Tests in last 12 mths : 6

CellCheck AnimalHealthIreland.ie

Herd SCC Distribution



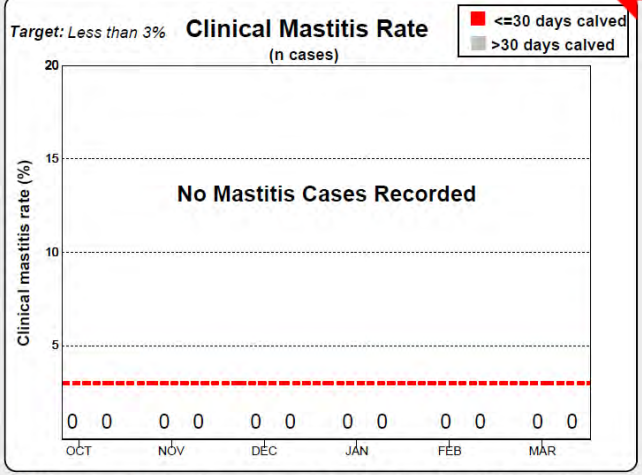
Target: 85% of herd less than 200

Clinical mastitis

No mastitis cases

Target: Less than 3%

Clinical Mastitis Rate
(n cases)



Note: Record treatments in the Record Events section of the ICBF web site www.icbf.com

Mastitis Control: Dry Period/Calving

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Note: Cows with first recording >60 days after calving are not included.

	First Test since calving	All calvings in current lactation	
New infection rate over the dry period			
Cows No. of cows calved that had a SCC <=200 in recording prior to calving (66) and >200 in the current recording (22).	33% *Target: Less than 10%*	33% *Target: Less than 10%*	22/66
Heifers No. of heifers that had a SCC >200 in the current recording (15) as a percentage of all heifers calved (37).	41% *Target: Less than 15%*	41% *Target: Less than 15%*	15/37
Cure rate over the dry period No. of cows calved that had a SCC >200 in recording prior to calving (11) and <=200 in current recording (2)	18% *Target: Greater than 85%*	18% *Target: Greater than 85%*	2/11

Recording of cases of mastitis big weakness, text: cow id, mast to 089/4577663(back of white pocket herd book)

First recording is crucial for this calculation, to often first recording to late i.e. end of April.

New infection and cure rate over dry period can be assessed here.

Breeding

- Hi Health sub index must be positive, Bulls +10.
- Check high SCC cows and look at their Health sub index on EBI report.
- Type traits, teat length, speed of milking.

Approach to Calving

- Calving Boxes and stocking rate.
- Heifers sealed or not.
- Pre calving minerals.
- Dip heifers prior to calving with External teat seal. Spraying pre calving with teat spray.

Calving Box stocking rate:

Correct environment pre calving and post calving, Dry, Dry, Clean

And the opposite…

Good to see cows Standing all fours on cubicles.

Locking cows off cubicle 30 minute stand time. Lock off barriers.

Milking Parlour Issues

- Common issues we see

Liners are they inline and good quality.

Liner Indicators:

Twisted liners:

Start season with new set of liners.

Start with a New Set of Liners

- Liner age influences milking performance and milk quality

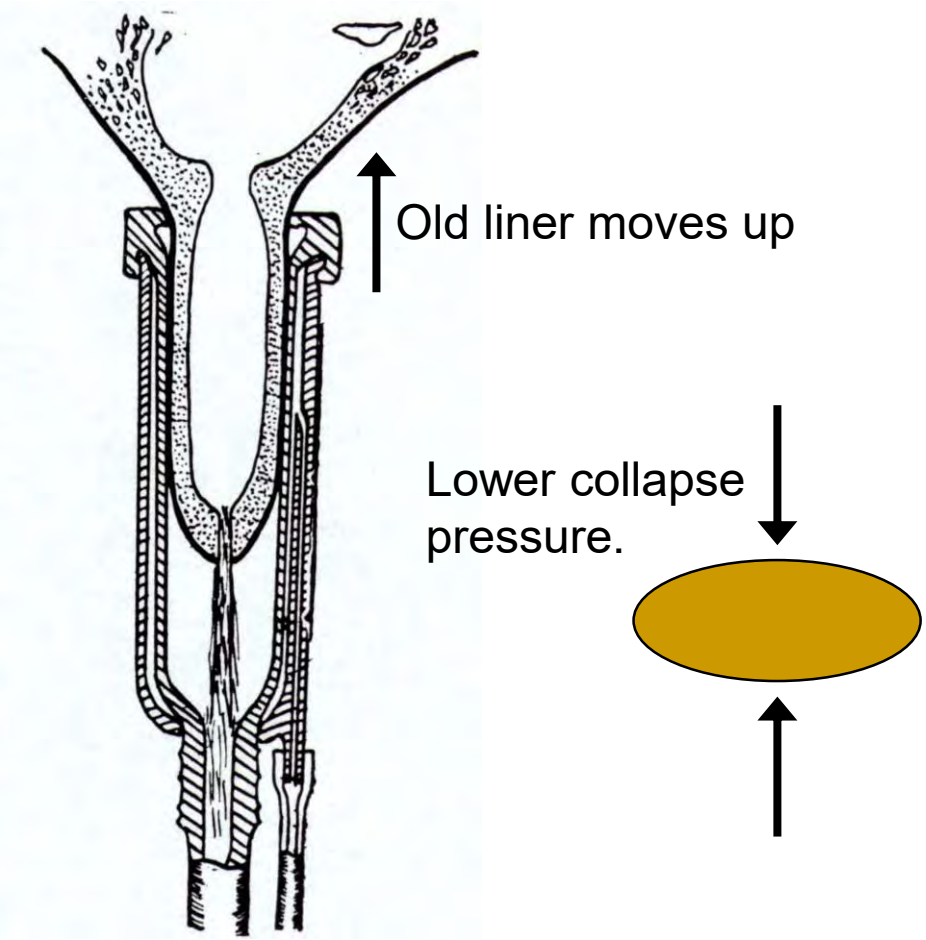
- Max liner life is 2000 milkings.

  e.g. 10 rows of cows 1.5 x daily =

  2000 / (10 x 1.5) = 150 days = 4.5 months

  In once a day herds very important to stick to 2,000 milkings. May have to reduce if significant hot washing practiced.

2. Liner ageing



- Old liners depress milk yield and cause longer milking times. NB in once a day.
- Teat sinus closes off which causes under milking. Very NB
- Milking phase is shorter hence milking time is lengthened
- Longer milking times will lead to dissimprovement in teat end condition

3. Liner Slips

- Liner slips result in rapid airflow towards the teat end
- Can transfer bacteria from one quarter to another within a cow
- Slips can be minimised by using manufacturer recommended liners
- Removing clusters gently
- Watch cluster allignment !!!

Pulsation failure

- **High levels of congestion results in a delay in the closure of the teat canal after milking – pathway for bacteria to enter the mammary gland**

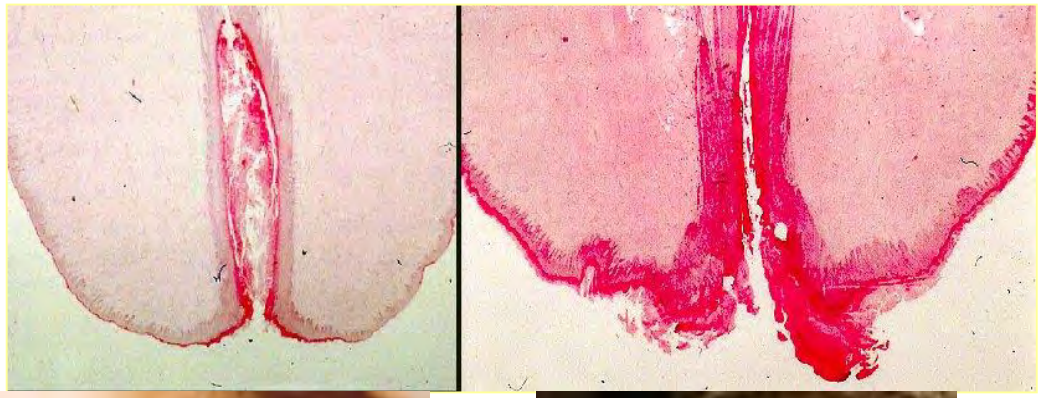
Normal, closed orifice

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

Bacteria Gain Entry Through The Teat Duct

When Liner Compression is too high: Dr John Upton

- Increased teat-end hyperkeratosis
- Excessive keratin removal from canal

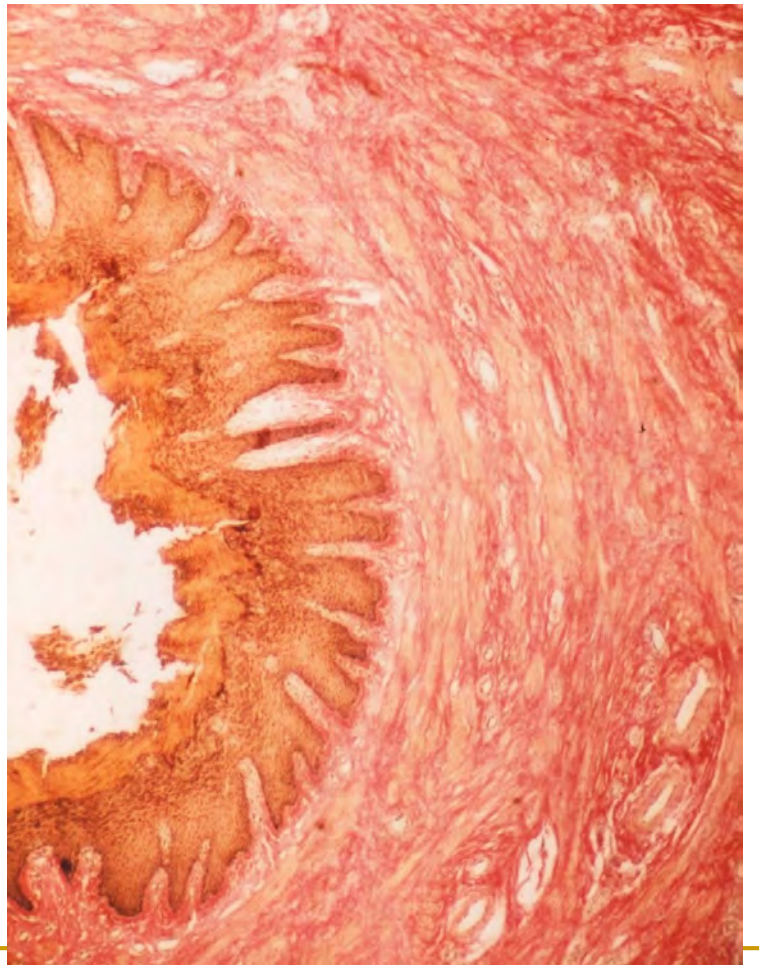


Normal, smooth

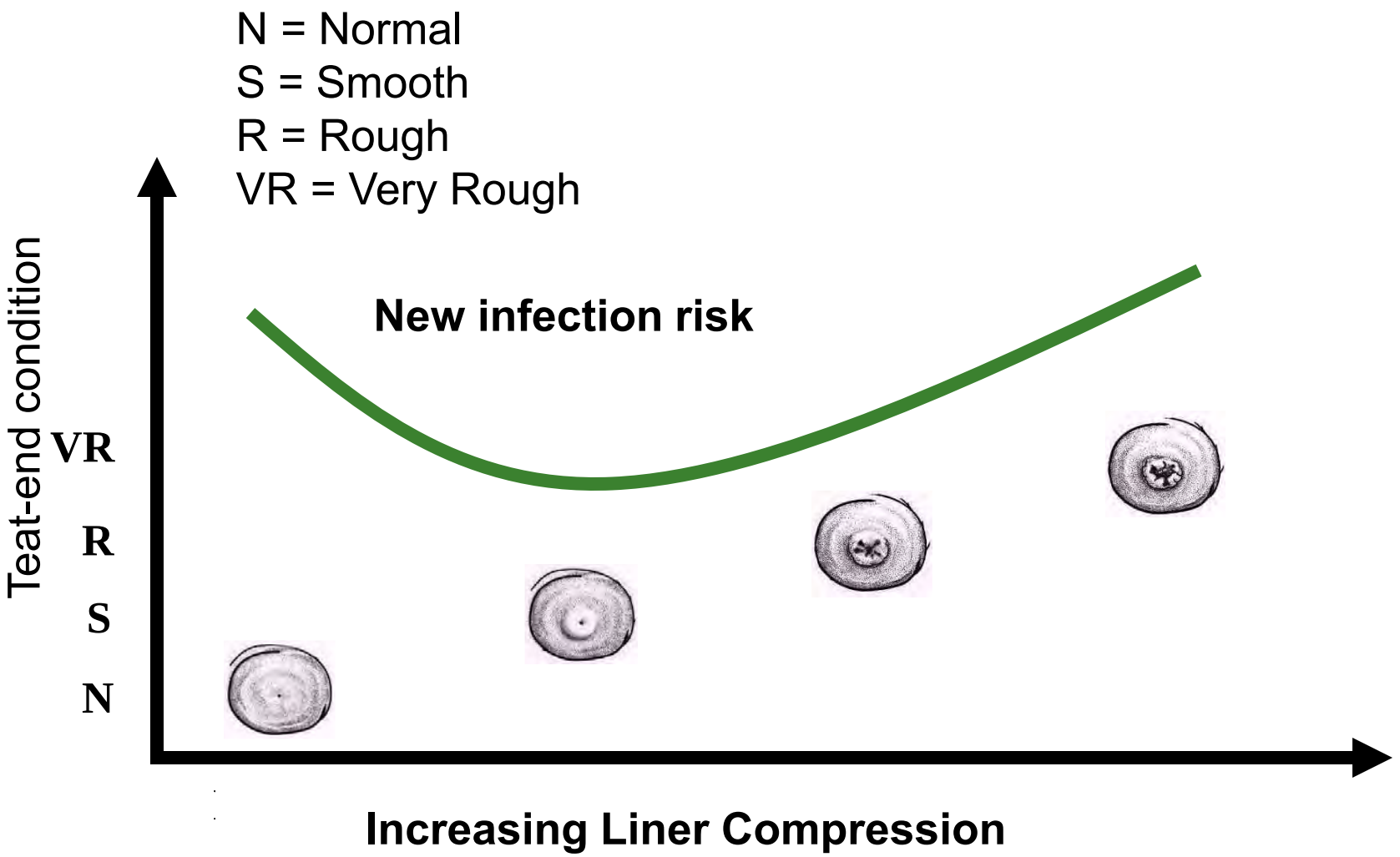
Hyperkeratosis, rough

The Keratin Lining

- The Keratin removal is influenced by liner compression
- The balance of keratin production and removal is important in maintaining teat integrity



Hyperkeratosis and New Infection Risk



Vacuum Fault: Ideal 46 to 47 kpa

Regulator Blocked(Common Problem)

Blocked Air Bleeds:

Cluster Removers: ACR settings 2.5 to 3 seconds

Cluster Alignment and Cluster Removers

Milking parlour

- Start with a new set of liners.
- Operating Vacuum 46 kpa.
- Pulsation ratio
- Service regulators and ACR's, ensure optimum take off i.e. 3 secs delay.
- With reduced frequency adequate removal of milk is crucial. (Watch slow milkers).
- Check cluster flush i.e. 800mls to 1litre/ flush
- Hot Wash parlour once per week.

Milking Routine: fore milking early detection but must avoid spread.

Pre-milking teat disinfection + wipe
Reduce new infection rates?

- Potentially kill 95% of bacteria on teat skin

Staph Aureus and Strep Uberis

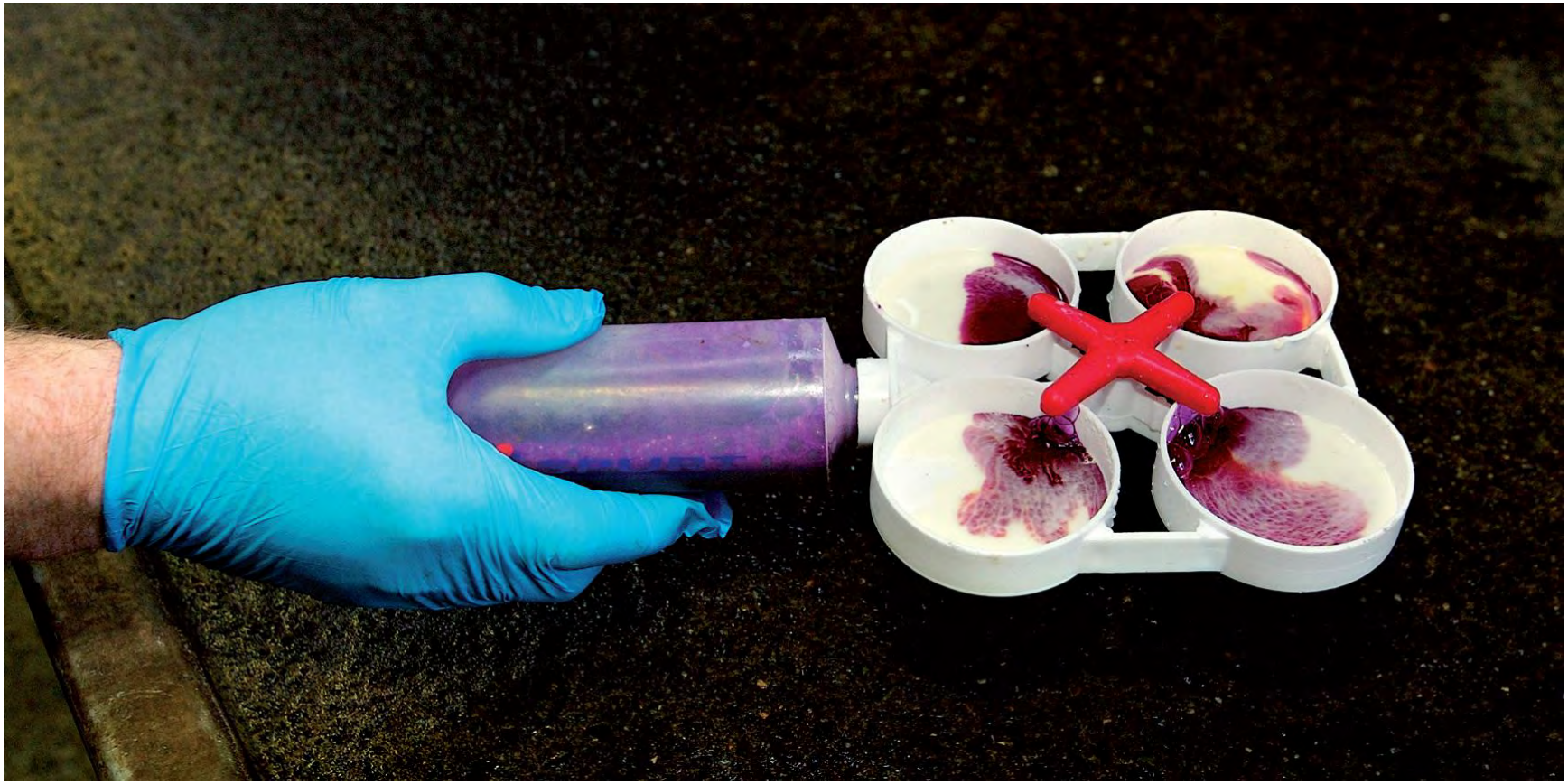
- Staph Aureus: Very important to control in once a day herds. Avoid under milking
- If converting from twice a day need to cull heavy, no chronic cows.
- Sub clinical infections. Cluster dip or segregate, cure rates very poor.
- Prevent spread.

  For Strep uberis: Early detection crucial can have a very sick cow in 12 hours, dead in 24 hours !!!
- Environmental with contagious features

Cluster Dipping/Separate Group

An Infected cluster will pass infection to next 8 cows. Dipping can do more harm than good.

CMT KIT/Early Milk Recording/Gloves



Proper Dipping post application: Consider teat dipping

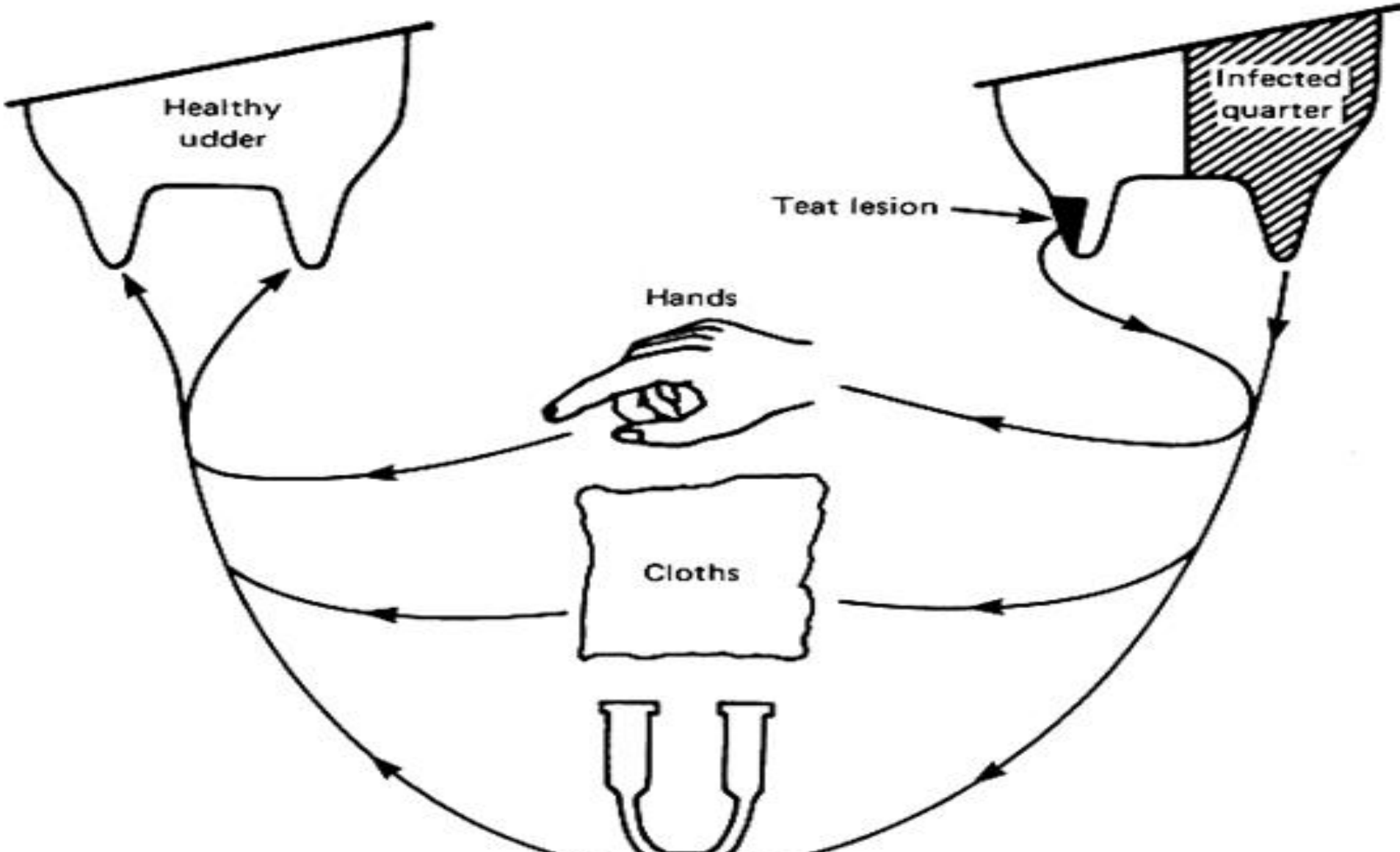
Mastitis Catergories

- Contagious mastitis
  - E.g. Staph aureus, Strep agalactiae

Environmental mastitis:

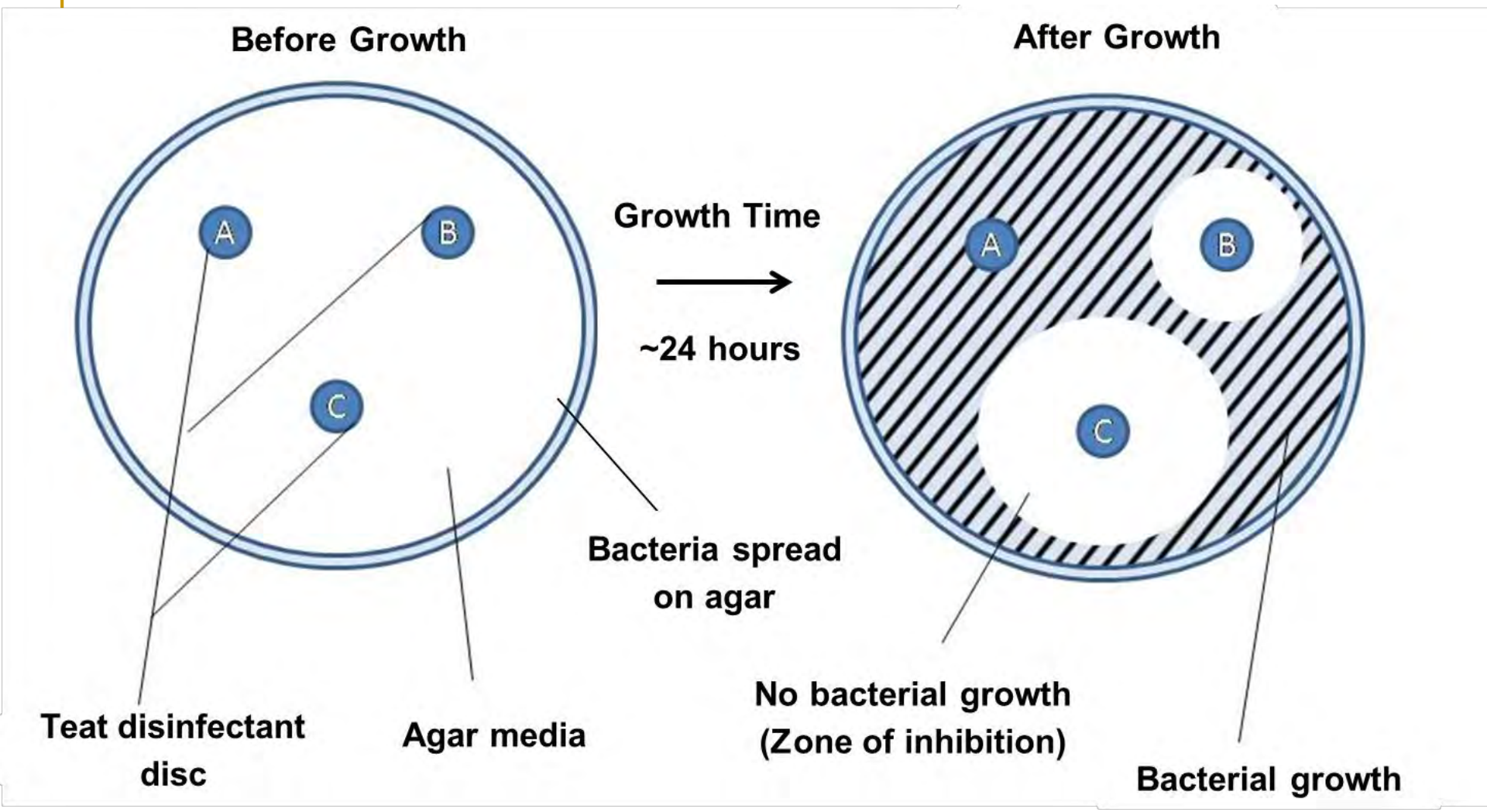
e.g. Strep uberus, E.Coli

Main vectors for Contagious mastitis



Teat dip guidelines.

- Dr Dave Gleeson and Sarah Fitzpatrick PhD Student.


Before Growth
After Growth
A
B
C
Growth Time
~24 hours
Bacteria spread on agar
Teat disinfectant disc
Agar media
No bacterial growth (Zone of inhibition)
Bacterial growth

Results/Conclusions

- Products react differently in the presence of organic matter (pre-spraying dirty teats)
- High concentration Chlorhexidine and Lactic acid with Chlorhexidine most effective against *S. aureus*
- Post dipping with barrier dips proving very effective.

Dr Dave Gleeson and Sarah Fitzpatrick PhD Results of Teat dip analysis

- High concentration Chlorhexidine (6000ppm) product 18% better than iodine based product
- Lactic acid and chlorhexidine and Lactic acid and salicyclic acid products between 13-17% better than iodine based product
- 40% difference in efficacy between most effective and ineffective product
- Organic matter caused a 2% - 71% decrease in efficacy

- New Research project on comparing efficacy of teat disinfectant products underway at Moorepark (WF ref: 2016054, project 0006)- initial results:

- List of registered products on the market on Teagasc website- https://www.teagasc.ie/animals/dairy/milk-quality/

Once a Day Milking Risks

- Bacterial Challenge in the herd.
- Milking Frequency.
- Delay in Identification.
- Impact on Cure rate.
- Potential for infection.
- Duration of milking.
- Out by day in by night. (leaking on Beds)

- Thank You
- Best of luck with the season ahead!