

# Countdown Downunder Mastitis Investigation Pack

Read Technote 13 pages 5-15 for a guide to using these sheets  
and tips for efficient data collection

**AI-7**

**INVESTIGATION MASTER SHEET**

**BI-5**

**Farm Profile**

**H**

**Clinical Cases**

**C**

**Milk Cultures**

**I**

**Teat Condition**

**D**

**Individual Cow Cell Counts**

**J**

**Cow Behaviour  
Milking Time per Cow**

**E**

**Milking Machine Dry Test**

**K**

**Completeness of Milking  
Cluster Alignment**

**FI-2**

**Performance Tests of Milking  
Machines**

**L**

**Teat Disinfectant**

**G**

**Milking Routines, Teat Cup Slips**

**M**

**The Environment**

Client.....

**Presenting problem**      Date.....

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### Re-defined problem

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**Agreed key factors to resolve the problem**  
( Use **A7** to identify and allocate priorities)

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4. ....  
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### Advisory team

Name .....

Company.....

Phone.....

Fax .....

Email.....

Name .....

Company.....

Phone.....

Fax .....

Email.....

Name .....

Company.....

Phone.....

Fax .....

Email.....

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**Client**.....

**Does the farm operation match the Farm Guidelines?**

**How important is this to the problem?**

- 4 - High and urgent
- 3 - High but not urgent
- 2 - Low
- 1 - Different problem

**B. Farm Profile**

	TN	Yes	Unsure	No	Comments
The policy used to check introduced (purchased or borrowed) cows for mastitis meets the guidelines	21				
The culling policy for clinical and persistently infected cows meets the guidelines	15				
Management at drying-off and the Dry Cow Treatment strategy meet the guidelines	14				
Udder condition at calving (no excessive swelling or dripping) meets the guidelines	1,2				
Permanent and detailed records are kept on cows with clinical mastitis	4				
BMCCs have been below warning levels for the past 18 months	11				
Other					

**C. Milk Cultures**

	TN	Yes	Unsure	No	Comments
Milk samples were collected from cows representative of the problem being investigated	4				
There are sufficient milk culture results to assess the herd problem	13				
Bacteria have been identified that could account for the herd problem	1, 5				
Other					

**D. Individual Cow Cell Count Analysis**

	TN	Yes	Unsure	No	Comments
The new infection rate in heifers is acceptable (less than 1% additional heifers infected per month)	12				
Other					

**Does the farm operation match the Farm Guidelines?**

**How important is this to the problem?**

**E. Milking Machine Dry Test**

- 4 - High and urgent
- 3 - High but not urgent
- 2 - Low
- 1 - Different problem

	TN	Yes	Unsure	No	Comments
The last test was recent enough to provide valid information on the current problem	25				
The capacity of the milking line (size and slope) meets the current guidelines	25				
The vacuum and airflows meet the current guidelines (working vacuum, effective reserve, regulation efficiency)	25 AMMTA specs				
Pulsators operate within the current guidelines	25 AMMTA specs				
Liners, claw tubes and other rubberware are in good condition	6				
Other					

**F. Performance Tests of Milking Machines**

	TN	Yes	Unsure	No	Comments
Compatible cluster components have been selected (liners fit shells and claw nipples, liners seem OK for average teat size, cluster air admission is OK)	25				
Vacuum levels and differences meet standards and guidelines	25				
Mean claw vacuum meets the guidelines	25				
Vacuum stability in milking line and receiver meets the guidelines	25				
Other					

**Does the farm operation match the Farm Guidelines?**

**How important is this to the problem?**

**G. Milking Routines**

- 4 - High and urgent
- 3 - High but not urgent
- 2 - Low
- 1 - Different problem

	TN	Yes	Unsure	No	Comments
Cups go on clean, dry teats	5				
Cows have let-down by the time the cups go on	5				
Hygiene in the shed (wearing of gloves, stripping methods etc) will reduce the number of bacteria at the teat ends	5, 8				
The technique used by all staff to remove cups is appropriate	5				
Teat disinfectant adequately covers all teat surfaces	7				
The frequency of teat cup slips is within the guidelines	6				
Other					

**H. Clinical cases**

	TN	Yes	Unsure	No	Comments
The protocol for detecting clinical cases is appropriate	4, 10				
All staff use the same protocol for detecting clinical cases	4, 10				
The protocol for treating clinical cases is appropriate	4, 10				
The way clinical cases are milked (hygiene, milking order etc) will minimise spread to other cows in the herd	4, 8				
Other					

**Does the farm operation match the Farm Guidelines?**

**How important is this to the problem?**

**I. Teat Condition**

Short-term changes in teat condition (colour, swelling, firmness, openness) are within normal limits

Longer-term changes in teat skin condition and teat end hyperkeratosis are within normal limits

Other

TN	Yes	Unsure	No	Comments
9				
9				

4 - High and urgent  
3 - High but not urgent  
2 - Low  
1 - Different problem

**J. Cow Behaviour; Milking Time per Cow**

Cow discomfort is minimal (less than 10% of cows with KiSt response) at each of the four stages of milking

The average milk flow time of the herd meets the current guidelines for their production level

Average over-milking time is acceptable (minimal : less than 1 minute, moderate : 1-2 minutes, excessive: 3 or more minutes)

Delayed let-down in the herd is minimal (less than 10% of cows)

Other

TN	Yes	Unsure	No	Comments
5, 6				
6				
5, 6				
5				

**K. Completeness of Milking; Cluster Alignment**

Less than 20% of quarters contain strip yields of 100mL or more

Clusters hang squarely on udders

Other

TN	Yes	Unsure	No	Comments
6				
6				

**Does the farm operation match the Farm Guidelines?**

**How important is this to the problem?**

**L. Teat Disinfectant Preparation**

- 4 - High and urgent
- 3 - High but not urgent
- 2 - Low
- 1 - Different problem

	TN	Yes	Unsure	No	Comments
The product is registered by NRA	7				
Mixing rates, water sources and storage containers meet the guidelines	7				
Iodine and water test results are within acceptable ranges	7				
Other					

**M. The Environment**

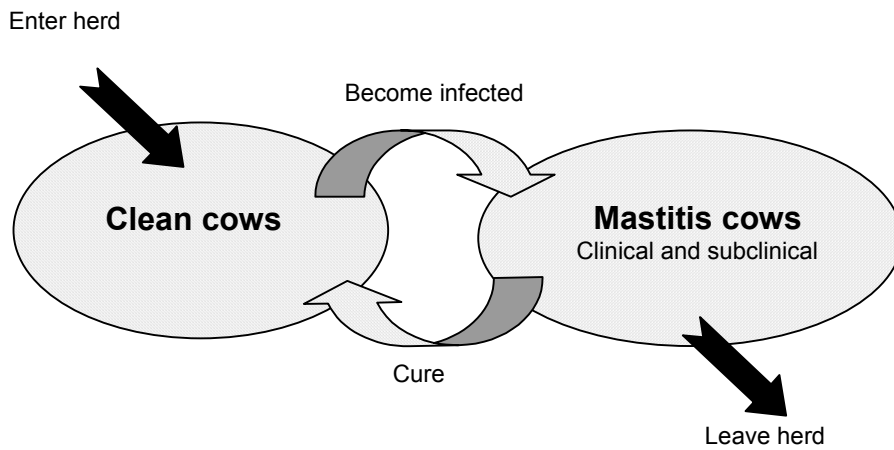
	TN	Yes	Unsure	No	Comments
Cows calve in a clean and dry environment	1				
Udders remain clean and dry in the first hour after milking	27				
Other					

## Herd Mastitis Dynamics Chart

Technote 13 page 7

Major pathogen(s):

Key control points:



Other key issues:





**Your problem**

Discuss the problem - get down to what is the primary concern and when it occurs

.....  
 .....  
 .....

**People**

Do you employ milking staff?  No  Yes

How many? .....

How many operators are in the shed at each milking? .....

Is the herd ever milked three times a day?  No  Yes

**Cows**

	How many first calvers in the herd? (Approximately)	How many mature cows in the herd? (Approximately)	Total
This year			
Last year			

Have any cows in your milking herd been introduced from external sources in the last 3 years?  No  Yes

If yes, please describe:

Date	Source	No. maiden heifers	No. cows	Total

Have you milked cows belonging to other herds in your dairy in the last 3 years?  No  Yes

If yes, when.....

Define the problem - tick appropriate boxes (one or more)

- BMCC  At calving
- During lactation
- Clinical cases  At calving
- During lactation
- Other
- High ICCC cows
- Teat condition
- Other (eg thermodorics)

Note any features about staffing issues and milking routine consistency that may impact on mastitis

Is the age structure or replacement rate of the herd likely to impact on the level of mastitis in the herd and the management options?

What is the risk of introducing mastitis bacteria with cows from other herds?

What purchasing protocol are used to safeguard against mastitis?

Date .....

Client .....



**Shed and equipment**

Have there been any recent changes to the shed?  No  Yes

If yes, what.....

What type of liners are in the shells?.....

When were they last changed?.....

When are they due for changing next?.....

**Udders at calving**

How many heifers or cows had udder oedema (flag) at last calving?.....

How many heifers or cows had tight udders that dripped milk?.....

**Clinical cases**

- Do the clinical case records show:
- Cow ID
  - Date
  - Quarter treated
  - Product used
  - Result / outcome

Are the calving dates recorded and available?  No  Yes

How many clinical cases have you had this season / year?.....

How many cases were in heifers?.....

How many cases occurred within 14 days of calving?.....

How many cases required a second course of treatment?.....

**Culling for mastitis**

Do you ever cull clinical cases of mastitis?  No  Yes

If yes, how do you decide which ones go?.....  
.....

Do you use ICCC to decide which cows to cull?  No  Yes

If yes, how?.....  
.....

Check for any obvious leads relating to the shed plant and equipment that should be followed up

Estimate how many cow-milkings the liners will do:

$$= \frac{\text{Herd size} \times \text{No. milkings/day} \times \text{No. days}}{\text{No. milking units}}$$

Tight swollen dripping udders at calving may be at risk of new infection. Consider when choosing the dry cow strategy

Use all the information in the clinical case section to assess the adequacy of the treatment protocol

A high number of cases in heifers is indicative of new infection

Calculation of rates from farm data:

At calving ..... cases / 100 cows

During lactation ..... cases / 100 cows

Compare the clinical case rate with the warning levels in Farm Guideline 13

Compare with the culling recommendations in Farm Guideline 15. Warning bells should ring if someone is culling high ICCC cows to control BMCC.

Date.....

Client.....



**Drying-off management**

On average, how many litres were cows producing at the time of drying-off? .....

Did you take any steps to control the level of production?  No  Yes

If yes, what approach was used?

- Change in milking frequency .....
- Change in diet.....
- Change in routine.....
- Other .....

Did you use Dry Cow Treatment at the end of last lactation?  No  Yes

If yes, which cows were treated?

- All the milking herd (blanket)
- Selected cows
  - ICC
  - Clinical cases
  - Other .....

What product(s) were used:.....

.....  
.....

How many cows were dried off in each batch?.....

What was the maximum number of cows dried off in any batch?.....

How many people were involved in doing the DCT at each batch?.....

How were the teats sterilised?.....

.....  
.....

Were teats sprayed or dipped after treatment?  No  Yes

Do the DCT records show:

- Cow ID
- Treatment date
- Product used

Were there any cases of clinical mastitis after drying-off?  No  Yes

How were cows managed after drying-off?.....

.....  
.....

*Were the majority of cows in the herd likely to be producing between 5 and 12 L at drying-off?*

*Was the method used to dry-off cows consistent with the Farm Guidelines?*

*Good dry cow records are essential for managing milk quality at calving*

*Clinical cases after drying-off reflect the overall drying-off management from preparing the cows, techniques used to administer antibiotic, to hygiene post drying-off*

Date.....

Client.....



## Environment

Are there areas around the farm that are likely to make udders muddy prior to milking?

- Laneways  No  Yes
- Gate ways  No  Yes
- Areas around troughs  No  Yes
- Entrance to the dairy  No  Yes
- Exit from the dairy  No  Yes

Where do cows calve?

- Calving pad
- Paddock
- Other

Do you have a feed pad?  No  Yes

**Are there any other points you would like to discuss about the problem?**

.....  
.....  
.....  
.....  
.....

*If an inspection of the feed pad or calving pad could be beneficial, schedule it in your diary for the appropriate time of year*

.....

Date.....

Client.....



Jan 2004

# Milk Cultures

Technote 4 page 5



Cow ID	Age	Calving Date	Sample		Comments/ Sampling reason	ICCC		Results
			Date	Type		Last Count	Peak last lactation	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

This batch of samples

Who took these samples .....

Dates submitted for culture .....

Lab submitted to .....

The samples are  Fresh  Frozen

Sampling Reason (if mixed, then mark reason for individual cows in column)

- High cell count.....
- Clinical cases .....
- Other .....

Who selected cows .....

Sample Type (Identify quarter in column)

- Composite samples
- Individual quarter samples
- Individual quarters after RMT/ or conductivity test

### Results

Number of samples:

Staph aureus .....	Cbovis .....
Strep uberis .....	CNS .....
Strep ag .....	Other .....
Strep dyst .....	Mixed .....
E.coli .....	Contaminated .....
Number of samples with no growth .....	
Number with interpretable results .....	

Date ..... Client .....

## Comparison of mastitis prevalence in different groups of cows

Group	No. cows with any cell count above 250	Total No. cows in group	Percent above 250
1st lactation heifers			
Mature cows			

*Is any particular group of cows affected? (eg different ages, stages of lactation or management groups)*

*Use the summary on the most recent herd test to identify cows which have had any cell counts above 250,000 cells/mL*

## Estimating the rate of new infections in first lactation heifers

Herd Test Date	No. heifers with any cell count above 250	No. of heifers tested	Percent above 250

*The percent of heifers that have had a cell count above 250 is an indicator of the new infection rate in the herd*

*Suspect a problem if more than 20% of heifers infected by the end of their first lactation*

*Warning in seasonal herds if percentage increases by more than 1% per calendar month*

*(interpret with care when there are less than 40 heifers tested)*

## The number of persistent infections

No. cows with any cell count above 250	No. that ALSO had a cell count above 250 last lactation	Percent

Date.....

Client.....



# Milking Machine Dry Test

(AMMTA test or equivalent dry test)



Attach copy of dry test here

Date.....

Client.....

Tested by ..... Countdown Performance Certificate No .....

Client ..... Date .....

Reason for test .....

Vacuum Recorder Brand..... Model .....

Connection for vacuum recording

Last calibration check Date.....

Channel 1 35 kPa ..... 45 kPa ..... 55 kPa .....

Channel 2 35 kPa ..... 45 kPa ..... 55 kPa .....

Extra test gauge 35 kPa ..... 45 kPa ..... 55 kPa .....

(if used) (not more than ± 0.5 kPa measured against reference mercury manometer)

T-piece ..... kPa/sec

Needle .....G ..... kPa/sec

Other ..... kPa/sec

Response rate

## PERFORMANCE TEST SUMMARY

	Yes	Border-line	No	Comments
Compatible cluster components have been selected (liners fit shells and claw nipples)				
Cluster air admission is OK				
Cluster positioning and weight balance is OK				
Vacuum levels and differences meet standards and guidelines				
Mean claw vacuum meets the guidelines				
Vacuum stability in milking line and receiver meets the guidelines				

## RECOMMENDATIONS

Considering the results of both the Dry Test and these Performance Tests:

No further work or changes are necessary

Further tests or milking time observations are required

Please specify .....

.....

.....

.....

The following changes are recommended

Please specify .....

.....

.....

.....

### Clusters Not during milking

No. clusters ..... Claw type.....

Parallel 80-90°      Claw nipple size..... mm

Attach rear      Air vent size ..... mm

H'bone, attach side      S/off valve leaks..... L/min

Cluster position in relation to the cows' udders      Air adm. range ..... L/min

Good / Fair / Poor      Cluster air leaks..... L/min

Shell dimensions.....mm  
(Length x Outer Diameter x Hole)

Liner brand..... Model no. ....  
Short milk tube bore.....mm

#### Liner Condition

Age of liner ..... months      Number of cow milkings .....

Good      Fair      Poor

Mouthpiece distortion

Barrel shape

Abrasion on outside wall of liner  No  Yes

Rub marks on shell  No  Yes

Current      New

Liner length unstretched (mm) .....  
Liner stretch (%) .....  
Ineffective length ..... mm      Effective length ..... mm

### Claw vacuum

Unit	Average claw vacuum (kPa)		Pass/Fail guideline
	During milking Avg at 90 - 120sec	Flow Simulator At 5 L/min	
1			Mean claw vacuum within range 36-42 kPa at 5 L/min with simulator; or 90 - 120 seconds after cups on
2			
3			
4			
5			
6			
7			
8			
9			
10			
Mean			<b>Pass/Fail</b>

### Vacuum levels and differences Not during milking

Milkline height      High       Mid       Low

Vacuum reading	Guidelines	Pass/Fail
Working vacuum (WV) ..... kPa at central test point (ctp)	High line 47 - 50 kPa Mid line 45 - 48 kPa Low line 42 - 46 kPa	
Unit fall off test Level      Drop	Not more than 2 kPa with one unit open (OR with two units open when there are more than 32 units in the shed)	
1 unit .....kPa      .....kPa		
2 units .....kPa      .....kPa		
Regulator undershoot Level      Drop	Not more than 2 kPa below min vacuum with one (or two) units open	
1 unit .....kPa      .....kPa		
2 units .....kPa      .....kPa		
Regulator overshoot Level      Drop	Not more than 2 kPa above max vacuum with no units open	
1 unit .....kPa      .....kPa		
2 units .....kPa      .....kPa		
Vacuum change at reg or sensing point	A change of 1.3 kPa or more at regulator when receiver vacuum is dropped by 2kPa	
Reg vac with ctp at WV ..... kPa		
Reg vac with ctp at (WV-2) .....kPa		
Change at regulator .....kPa		

### Vacuum stability in milkline and receiver

During milking

	Vacuum reading (kPa)		Not more than a 2 kPa transient vacuum drop for 95% of the total milking time	
	Avg	Min	Drop Avg - Min	Pass/Fail
Milkline vacuum level with all or most units connected				
Receiver vacuum level during cluster changeover	1.			
	2.			

Technician .....

Date.....

Client.....

# Milking Routines, Teat Cup Slips

Technote 5

Technote 6 pages 6-7



Names of milking staff

.....  
.....  
.....  
.....

Others not present today .....

.....  
.....

Cows usually enter the shed

- On their own
- With help
  - Backing gate
  - Dog
  - Operator
  - Poly-pipe

Comment:.....

Most teats are clean and dry as cows enter the shed

- No
- Yes

Teats are washed

- No
- Yes

If yes, are they:

- Washed only if muddy
- Washed as part of shed routine

How .....

There are sufficient functional hoses to enable adequate washing

- No
- Yes

If washed, teats are dried  No  Yes

If yes, how? .....

Pre-milking teat disinfection is used

- No
- Yes

Comments:.....

The contamination of teat ends was checked with a damp teat wipe immediately before cups on

- No
- Yes

If yes, result .....

Everyone wears clean gloves at milking

- No
- Yes

Cups are put on when the teats are plump with milk

- No
- Yes

The cluster is weighed down (by hand or brick) to finish milking...

- Never
- Some-times
- Most cows

At cups off, the vacuum is released by...

- Kinking long milk tubes or using snap clips
- Pulling the Burton
- Automatic Cup Removers
- Other .....

After vacuum is released...

- Most cups drop away in 2-3 secs without help
- Some need assistance to get the cups off
- Most cups hang for 4-5 seconds or longer
- Removal by AGR's is satisfactory

Effectiveness of teat disinfectant coverage was assessed by:

- Visual inspection
- Towel test
- Spray pattern

Comments: .....

Any recent changes?

Has anything about the milking routine changed in the last 6 months?

.....  
.....

Any staff changes in the last 6 months?

.....  
.....

Other comments / observations

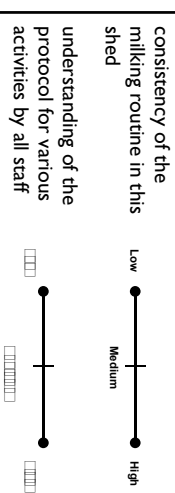
.....  
.....

Mark teat cup slips here

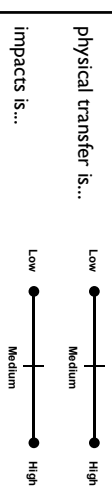
MTI

Number of cup slips recorded  
Number per 100 cows

How do you (the adviser) rate the ...



The opportunity for spread of mastitis in this shed through...



Date:.....

Client:.....

### Detection

Practices routinely used by milkers to detect clinical mastitis are...

- Visual inspection of the udder
- Palpation of suspect quarters
- Striping of suspect quarters
- Regular striping of fresh cows
- Routine striping of the whole herd
- Frequent inspection of filter socks
- Other .....

Clinical cases are usually detected at...

- Cups on
- Cups off

All workers know the protocol used to identify clinical cases for treatment in this herd

- No
- Yes
- Don't know

In your opinion (as the adviser), clinical cases are likely to be...

- Missed
- Usually detected
- Over-diagnosed

Milk samples are collected from clinical cases prior to treatment

- All
- Some
- None

### Treatment

The treatment routine for clinical cases includes....

- fully striping quarters out before infusing antibiotic  No  Yes
- milking quarters out fully at every milking  No  Yes
- sterilising teat ends  No  Yes
- hygienic infusion technique  No  Yes
- post-treatment teat disinfection  No  Yes

The treatment protocol includes....

- A full course of treatment  No  Yes

Products used

- 1) .....
- 2) .....
- 3) .....
- 4) .....

comments on selection

.....  
.....  
.....

comments on effectiveness

.....  
.....  
.....

### Identification / Hygiene

Cows with clinical mastitis are identified by...

- Leg bands
- Tail band
- Spray paint
- ID written on whiteboard
- ID written in diary
- Other .....

Every milker, including relief staff, is familiar with the system used to mark treated cows

- No
- Yes
- Don't know

Clinical cases are...

- Milked last
- Milked into a test bucket
- Other .....

If a test bucket is used...

- it has a separate cluster
- the cluster is adequately washed between cows

In your opinion (as the adviser), the opportunity for spread of mastitis from clinical cases in this herd is...

- Low
- Medium
- High

Date.....

Client.....

# Teat Condition

Technote 9



Cow ID	Skin condition	Colour	Swelling at base	Teat end firmness	Orifice openness	Teat end
	Normal, Dry Lesions, Haemorrhages	Normal, Pigmented Red, Blue	Normal Swollen	Normal Firm	Closed Open	No ring, Smooth Rough, Very rough
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
	Lesions (%)	Red or Blue (%)	Swollen (%)	Firm (%)	Open (%)	Rough (%)
	Haem (%)					Very rough (%)

← Identify quarters  
Left, Right, Front,  
Back at the top of  
columns

If an observation is  
missed place a cross  
(X) in the table

If you leave 'normal'  
findings as blanks in  
the table, tick here

# Cow Behaviour

Technote 6 page 4

# Milking Time per Cow

Technote 6 page 5



Countdown  
Downunder

Cow ID	Count Kicks and Steps involving the rear legs			
	In stall waiting to be milked	At preparation / cluster attachment	In first 2 mins of milking	In last 2 mins of milking
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
Total no. cows				
Cows having a Kist response	%	%	%	%

Cow ID	Clock time (00:00)				Milking time per cow (mins)		
	1. At cups on	2. True flow starts	3. Flow ends	4. At cups off	Delayed flow (2-1)	Flow time (3-2)	Over milking time (4-3)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
Proportion of cows with delayed let-down (>20 seconds)					%	mins	mins
Average milk flow time per cow						mins	
Average duration of over milking							mins

Date ..... Client .....

# Completeness of Milking

Technote 6 page 6

## Cluster Alignment



Cow ID Identify quarters O	Strip yields per quarter (mL)		
	L less than 50 mL	M 50-100 mL	H more than 100mL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
No. quarters Quarters yielding more than 100 mL (as a fraction)			
Percent of all quarters			%

### Cluster alignment

Do clusters hang squarely on nearly all udders?  No  Yes

If no, do clusters appear to be:

- Twisted  Because of long milk tube positioning relative to udders
- Because the long milk tubes and pulse tubes are twisted
- Pulling or dragging on the udder

- Because the long milk tubes are too long or too short
- Because the stainless steel droppers are too long
- Due to the lack of easy adjustment for udders of different heights
- Due to incorrect positioning of milkline inlets or Automatic Cup Removers

### Estimated Teat size and shape (based on visual assessment only)

Teat size in the herd is:  Highly consistent  Very variable

- In length, the teats tend to be:  Short  Average  Long
- In width, the teats tend to be:  Narrow  Average  Wide  Funnel-shaped
- In shape, teat ends tend to be:  Rounded  Pointed  Square-ended

Date.....

Client.....

# Teat Disinfectant

Technote 7

## The stock product (as purchased)

Brand name..... Volume

Purchase date..... NRA approved?  No  Yes

Product type  Concentrate to mix with water  Ready-to-use

The active  Iodine .....gm/L

Chlorhexidine ..... gm/L

Other ..... gm/L

Contains emollient?  No  Yes If yes, concentration

Storage on farm .....  
Product stored out of direct sunlight?  No  Yes

Product container is sealed at all times?  No  Yes

comments .....

Product expiry date .....

## Application

Applied by  Spray  Dip For  Whole season  Part season

If spray, the delivery method is by.....  
 Hand held trigger bottle  In-line wands  
 Portable pressure system  Automated

The spray nozzle delivers a stream  Angled  Vertically  Horizontally

Volume of prepared teat disinfectant used per cow:

Volume used per milking .....mL

No. cows milked ..... = .....mL/cow

## Mixing - do not complete the unboxed area if using a Ready-to-use product

### Teat disinfection mix (as applied)

Quantity mixed in each batch .....litres

The mix

Concentrate .....litres

Water .....litres

Added emollient .....litres  
(name) .....

Calculated active in mix ..... %

If available, tested active..... %

Calculated emollient in mix ..... %

### The water used

Source:  Tank  Spring

Town  River

Bore  Channel or dam

Other.....

Via hot water service?  No  Yes

Treated with any chemicals?.....

Water been tested?  No  Yes

If available, tested hardness..... ppm

tested alkalinity ..... ppm

### The routine

Who mixes the solution? .....

.....

Are components measured accurately?  No  Yes

How often is the mix made?.....

Do the containers keep the prepared mix clean?  No  Yes

### Any recent changes?

Has anything changed in the last 6 months?  
(product type, application, mixing, operators...)

.....

.....

.....

Any other comments.....

.....

.....

Date .....

Client .....

Calving area checklist

The calving areas were inspected
 No  Yes Date.....

Cows have the opportunity to calve in clean and well-drained areas
 No  Yes  Don't know

The calving area does get overcrowded
 Regularly  Sometimes  Never

When answering this, consider:

- The size of the area.....ha
- The maximum number of cows calving on any one day .....cows
- The length of time that the cows tend to stay in the calving area ..... days
- Whether cows tend to concentrate in certain spots (feed points, camps etc)
- Any special strategies used to manage the calving area .....

Heifers calve in the same areas as the cows
 Usually  Sometimes  Never

Yards, lanes and waterways

Yards and lanes were inspected
 No  Yes Date.....

When cows come into the milking area
 Most udders are clean and dry
 Many need pre-milking preparation

Laneways or gateways are likely to be contributing to udder soiling
 No  Yes  Don't know

Cows can enter dams, channels or other waterways
 No  Yes  Don't know

Cows use parking bays before or after milking
 No  Yes

Sprinklers are used to keep cows cool in hot weather
 Sometimes  Never

The feed pad

Is a feed pad used?
 No  Yes

If yes
It has been inspected
 No  Yes Date.....

The pad is used:
 Routinely after milking
 Seasonally
 At calving
 Part of the year.....
 Other.....

The pad is used by:
 Cows only
 Heifers only
 Heifers and cows
 Other (eg those at risk of milk fever)
.....

How deep and liquid is the surface of the pad?
.....
 Cows' udders are likely to get soiled
 Cows stay relatively clean

Draw maps or diagrams wherever appropriate

Date .....
Client.....