Dairy Australia

COUNTDOWN MASTITIS FOCUS REPORT

USER GUIDE

June 2021

COUNTDOWN MASTITIS FOCUS REPORT

The mastitis status of herds changes continuously. Good udder health relies on multiple factors being '**right**' most of the time – including consistent milking routines, optimal milking machine performance, healthy teat skin, clean calving paddocks etc.

The Countdown Mastitis Focus Report enables advisers and dairy farmers to keep track of udder health in their herd and strategically plan strategies for drying-off, calving and clinical mastitis management. It also provides an additional alert to emerging problems so that actions and advice can be targeted where needed most.

The Countdown Mastitis Focus Report underwent a major redevelopment in 2021 to address data glitches, improve functionality and update definitions and calculations based on recent research from both Australia and New Zealand.

The information in the new report is presented in a way that is pertinent for all herds regardless of herd size or calving pattern.

This User Guide describes how to generate and interpret a Countdown Mastitis Focus Report and gives pointers for troubleshooting issues.

The 2021 redevelopment of Countdown Mastitis Focus Report was led by Dr Alison Gunn, funded by Dairy Australia, and undertaken by DataGene.

ABBREVIATIONS

BMCC	Bulk Milk Cell Count	**DIF**	Data Interchange Format (a file format)
CSV	Comma separated Value (a file format)	**LCT**	Lactating Cow Treatment
DCT	Dry Cow Treatment	**ICCC**	Individual Cow Cell Count

Acknowledgement

Dairy Australia acknowledges the contribution made to Countdown Mastitis Focus Report by the Commonwealth government through its provision of matching payments under Dairy Australia's Statutory Funding Agreement.

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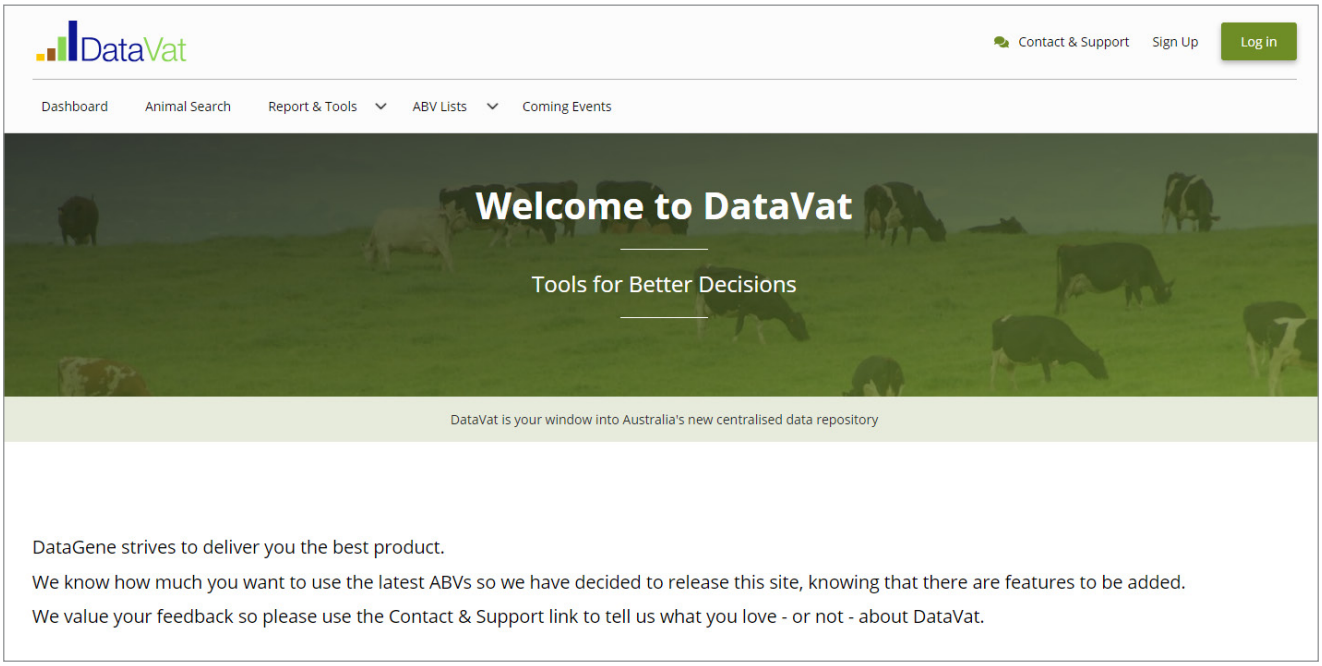


DATAVAT

You can access the Countdown Mastitis Focus Report in DataVat. DataVat is a web portal that allows for customised, secure access to various reports, tools and resources that draw upon data in the Australian dairy industry's centralised data repository (CDR) and information from its genetic evaluation system.

DataVat is publicly accessible, however some access to some tools and information, including the Countdown Mastitis Focus Report, is restricted via a registration/login.

Visit **datavat.com.au** to access the following functions which are available without user registration/login:

- Animal search for bulls, cows, and heifers
- Good Bulls Guide/Australian Breeding Value (ABV) lists for bulls
- ABVs for cows (top 2% of each breed)
- Haplotype reports
- Semen fertility reports
- Genomic value tool

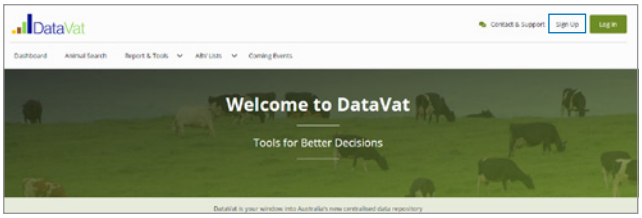
There are several functions and tools which may be accessed via registration/login. These include the Genetic Progress Report, Genetic Futures Report, Fertility Focus Report, and the Countdown Mastitis Focus Report.

DataVat is not supported on Internet Explorer. Please use Chrome, Edge, Safari, Firefox, or other web browsers. Internet Explorer is no longer supported by Microsoft.

DATAVAT REGISTRATION AND LOGIN

To register for a DataVat account

1 Click 'Sign Up' button in the top right-hand corner of the screen.



2 You will be directed to a 'Register' form.

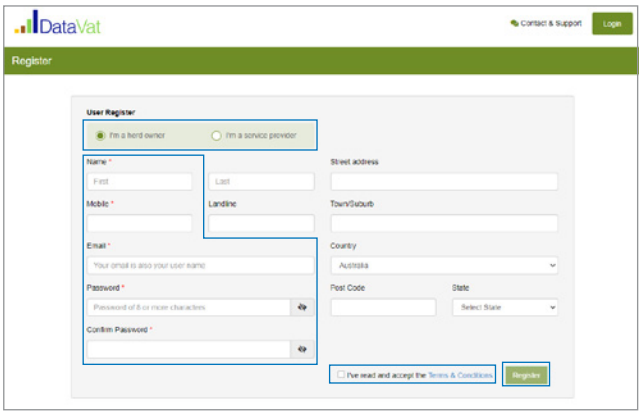
1 Select either 'I'm a herd owner' or 'I'm a service provider.'

2 It is essential to fill out all important fields (marked with red star) to submit the form.

3 The password you create is case sensitive.

4 Tick 'Terms & Conditions' box.

5 Click on 'Register' button.



6 An email will be sent to the email provided in the above form. Click on the link and confirm the email (check your junk folder if it does not appear in your inbox).

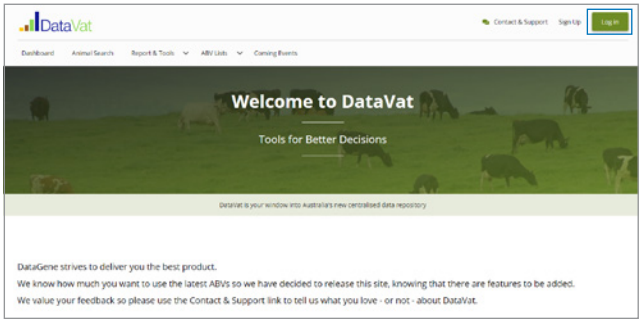
7 Your DataVat account is ready to sign in after confirming the email.

8 Your username is the email address you used to register. Use the same password you created at the registration step to login to DataVat.

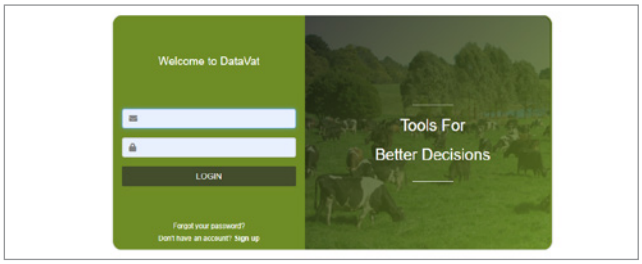
To login

1 Go to the DataVat website.

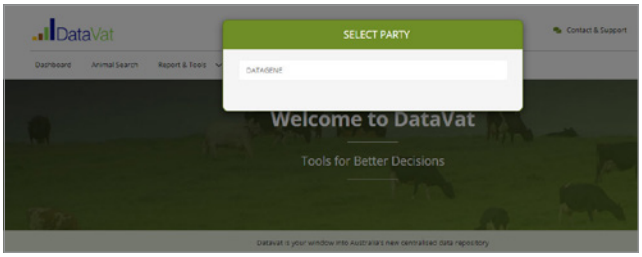
2 Click 'Log In' in the top right corner of the page.



3 Enter your username and password and click 'Login'.

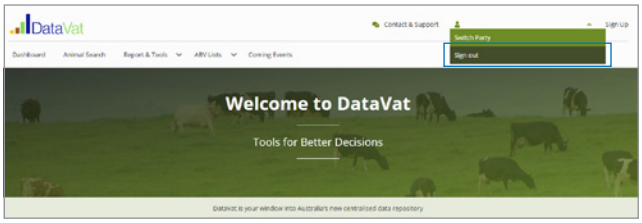


4 Select the account you want to log in as. Only accounts you are registered for can be logged in.



To log out

5 Scroll over the logged in profile icon in the top right corner of the page. Select 'Sign out'.



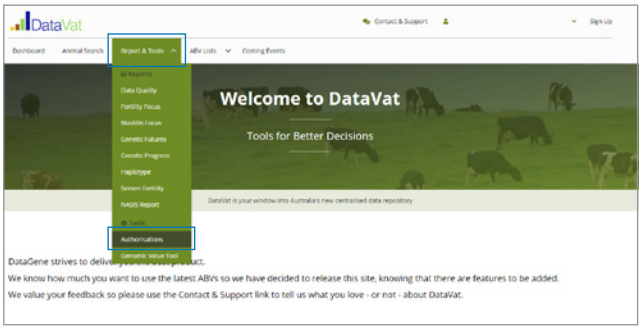
Receiving authorisation to access herds

Dairy farmers must authorise third parties to have access to their farm's data/reports. Third parties may include staff, vets, Countdown trained advisers, Repro Right trained advisers, or other service providers.

> Both the farmer and the third party must already have their own DataVat account to provide/ receive authorisation.

Farmers can follow these steps to authorise a third party to access their herd's data/reports.

1 Once logged in to DataVat account, click on 'Report & Tools' and then select 'Authorisations' from the drop-down menu.

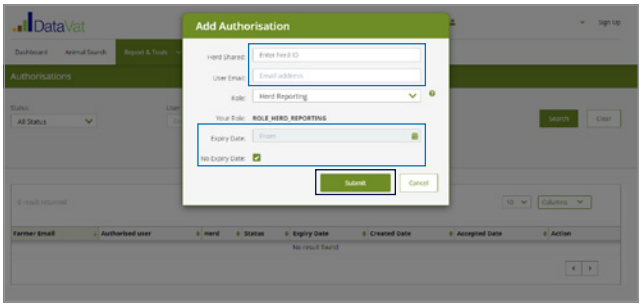


2 Click on 'Add Authorisation' button which will direct to a pop-up window.

3 Select Herd ID for authorisation. All the herds under the account will automatically show up in 'Herd Shared'. Then add the email address for the receiver.

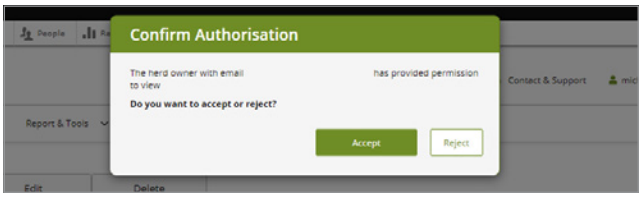
4 There is an option for limiting the time frame for authorisation. DataVat users can either provide an expiry date for this authorisation or else give access without an expiry date. Choose a date from the calendar to provide an expiry date or tick 'No Expiry Date' to give access for an unlimited time frame.

5 Once details are provided click submit.

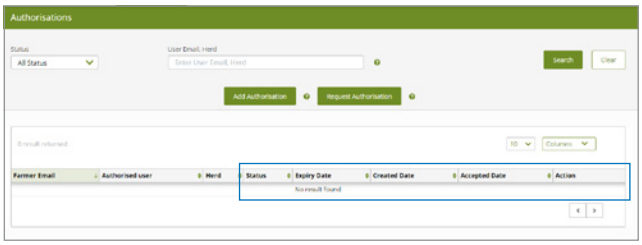


6 Once the 'Add Authorisation' is submitted, an email will be sent to the email address provided.

7 Once the receiver clicks on the link to confirm the request, the receiver will be redirected to DataVat and the below message will pop-up. The receiver has the choice to accept or reject.



8 The receiver can view authorisation history going back to 'Authorisations' under 'Reports & Tools'. It will show, Status, Expiry Date, Created Date, Accepted Date, and Action.



GENERATING A COUNTDOWN MASTITIS FOCUS REPORT

Once you have a DataVat login, the Countdown Mastitis Focus Report can be generated for a herd in the Reports & Tools section.

If a herd is on DataVat and you have permission to access their data, then you can produce the report from the dropdown menu after clicking the 'Select Herd' option.

If a herd is not on DataVat or you do not have permission to access their data, then you can upload a ZIP file containing DIF and/or CSV files. In theory, a Countdown Mastitis Focus Report can be generated for any herd, but it is easiest for herds that use commercially available herd management software.

A Countdown Mastitis Focus Report can be generated at any point in time. A standard report summarises the udder health status for all cows that have milked in the preceding year.

It is also possible to generate a retrospective report. This is useful to see how a herd has performed in preceding years. The report will analyse mastitis and ICCC data for all cows in the herd for a full 11 months preceding the month selected and all days in the month selected up to the input date.

The third option is to generate a report for cows that calve in a specified date range. This will report on the clinical mastitis and ICCC results for only those cows for a 12-month period that commences three months before the start of the calving period. You will need the dates for the start and end of the calving period that you want to analyse. If you are not sure of these, generate a standard report for the 12 months encompassing that calving period, and use the Farm Data Box to determine the start and finish month.

Herds that are herd testing and have entered the appropriate farm records are able to receive the most comprehensive report. This requires three or more years of:

- Herd recording data – calving dates, termination dates and ICCC (herd test) data;
- Farm records – clinical case records, dry-off dates and DCT;

Whilst this complete data set will produce the most comprehensive report, usable reports will still be produced with less than the 'full' data set. For example, herds that are not herd testing, but which record clinical case and cow lactation data accurately will still obtain a very useful report.

To achieve a representative report, it is essential to correct issues relating to collection of data. Examples of issues that may need to be addressed include; ensuring individual dates are recorded for dry-off and DCT rather than batch dates, and keeping permanent (not just contemporary) clinical case records. The completeness and coverage of record keeping and therefore the usefulness of the information will improve rapidly over time with a little guidance.

UPLOADING FROM A ZIP FILE

The Countdown Mastitis Focus Report data upload function will accept data in three formats.

1 A DIF file from a herd testing centre. These are files ending in .101, .102, .103 etc and are contained in a compressed ZIP file.

2 CSV files containing specific headers.

3 A combination of DIF and CSV files*.

*This can be useful if the farmer herd records but does not have clinical mastitis records shared with their herd testing centre. You can then use the herd recording data to upload the cow and ICCC data and add the clinical mastitis information as a CSV file.

Critically, all files must be submitted in a single ZIP file.

DIF files

Best results are likely to be produced when you download/obtain a ZIP file that contains all the DIF subfiles .101 to .116.

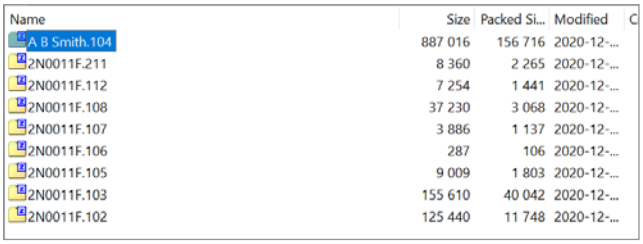
If you are obtaining your DIF files from a herd recording centre, ask for data that goes back at least three years and includes culled and deceased cows.

The details of the files are outlined in the table below.

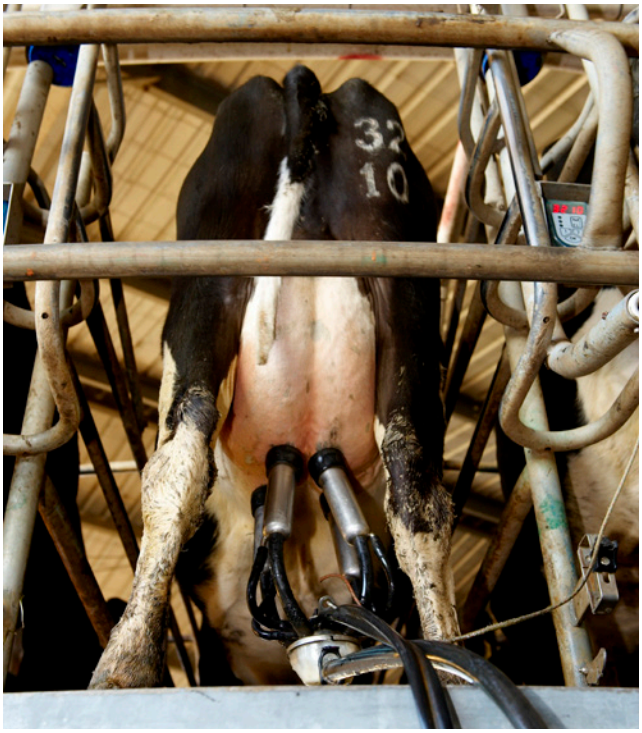
DIF file	Comments
.102 and .103 files	Essential. Contain important cow details.
.104 and .116 files	.104 files contain ICCC (herd test) data and.116 files contain treatment data (clinical cases). Having both files will generate the most useful reports.
.101 files	.101 files provide the farm name and address. They are no longer required to generate a Countdown Mastitis Focus Report. If there is no .101, the report will use the longest file name in the uploaded ZIP as the farmer's name.*

TIP

*If your ZIP file does not include a .101 DIF file rename one of the files as the farmer's name.



Name	Size	Packed Si...	Modified	C
A B Smith.104	887 016	156 716	2020-12-...	
2N0011F.211	8 360	2 265	2020-12-...	
2N0011F.112	7 254	1 441	2020-12-...	
2N0011F.108	37 230	3 068	2020-12-...	
2N0011F.107	3 886	1 137	2020-12-...	
2N0011F.106	287	106	2020-12-...	
2N0011F.105	9 009	1 803	2020-12-...	
2N0011F.103	155 610	40 042	2020-12-...	
2N0011F.102	125 440	11 748	2020-12-...	



CSV files

Many on-farm herd software programs will export data to a Microsoft Excel or CSV file. This information can be re-organised to import into the Countdown Mastitis Focus Report engine in a ZIP file. The Countdown Mastitis Focus Report will accept a CSV file to supplement DIF files uploaded in the same ZIP file. Alternatively a CSV file with the entire herd data can be uploaded by itself to generate a report.

To produce a representative and meaningful report, a CSV file needs to contain data of complete calving, dry off and culling dates for every cow in the herd for at least two years. Where possible upload cow date of birth. Many of the Countdown Mastitis Focus Report calculations are based on rates that include the number of cow days 'at risk'. If not all cows are entered, the final outputs may not be meaningful.

How to upload CSV files

The Countdown Mastitis Focus Report will import a CSV file with specifically labelled columns. These can be used to supplement the data in the DIF files or used to import all data.

If combined CSV and DIF files are used, the CSV files need to be contained in the same ZIP as the DIF files. CSV files can be created in Microsoft Excel and then saved as a CSV. You can only save a single sheet as a CSV.

It is also possible to run a Countdown Mastitis Focus Report just with data from a CSV file. When doing so, you should include the following information outlined in the table below.

The column title MUST contain one of the key header string words listed in the table below. Any column without a 'key header string' will be ignored.

Field	Key header strings	Description
Cow ID	COW; ID	Cow herd recording number/national cow ID/ farm cow ID¥
Date of birth	BIRTH; DOB	Cow date of birth
Culling/ death date	CULL; DEATH; TERM	Date the cow died or left the herd
Calving date	CALV	Calving date
Dry-off date	DRY	Lactation dry-off date
Treatment date	TREAT	Mastitis treatment date
Mastitis drug	MASTITIS; DRUG; EVENT	Mastitis treatment APVMA number*

¥ *The cow ID must be cow herd recording number or national cow ID if the CSV file will be uploaded with DIF files. This ensures the data in the CSV correlates with the herd recording data. If all data is being uploaded as a CSV, then any number or letter string up to 6 characters can be used to ID the cows.*

* *If you do not have the details of treatments used or the APVMA code, use the generic treatment codes shown below.*

DCT DRY COW TREATMENT
LCT LACTATING COW TREATMENT
TS TEAT SEAL
MCT MASTITIS - CLINICAL TREATED
MCNT MASTITIS - CLINICAL NOT TREATED

Additional considerations for CSV files

If you are uploading all data as a CSV, you will need to have all calving dates, dry off dates and culling dates for every cow going back at least two years from the analysis end date. Birth dates are also very useful. If you only have a subset of the cows in the CSV, then all the denominators will be incorrect, and the report will be meaningless.

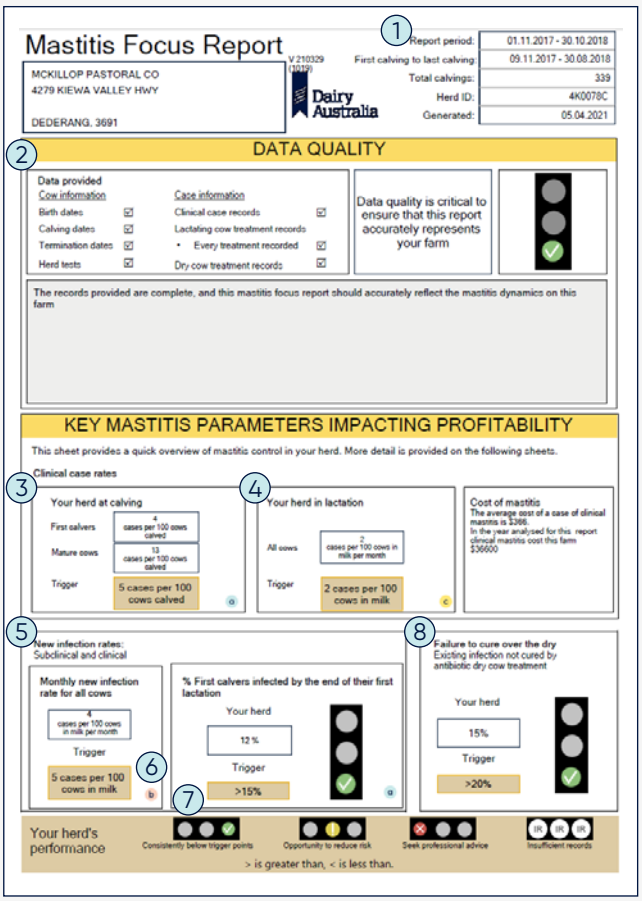
No data will be entered for cows that do not have a calving date. If you only have cow ages, you will need to estimate/calculate the birthdate.

Calving dates need to be on the same or earlier line than dry off dates to ensure the lactation is captured.

If you are entering dry off information which includes the treatment, you need to put the same date in the DRY column and the TREAT column to indicate that an antibiotic dry cow product was used. Also include a code for the DCT used in the DRUG column.

QUICK GUIDE

TO READING YOUR COUNTDOWN MASTITIS FOCUS REPORT



1 The report covers the 12 months preceding the nominated end date and calving range. Check that the calving dates and total calvings accurately reflect your herd.

2 This section tells you which farm data has been included in your analysis and how missing data will affect the report.

3 This box displays your clinical mastitis case rate **at calving**. If these levels are above the trigger, evaluate mastitis management at dry-off and calving using the Farm Guidelines 1-4 and 16-19.

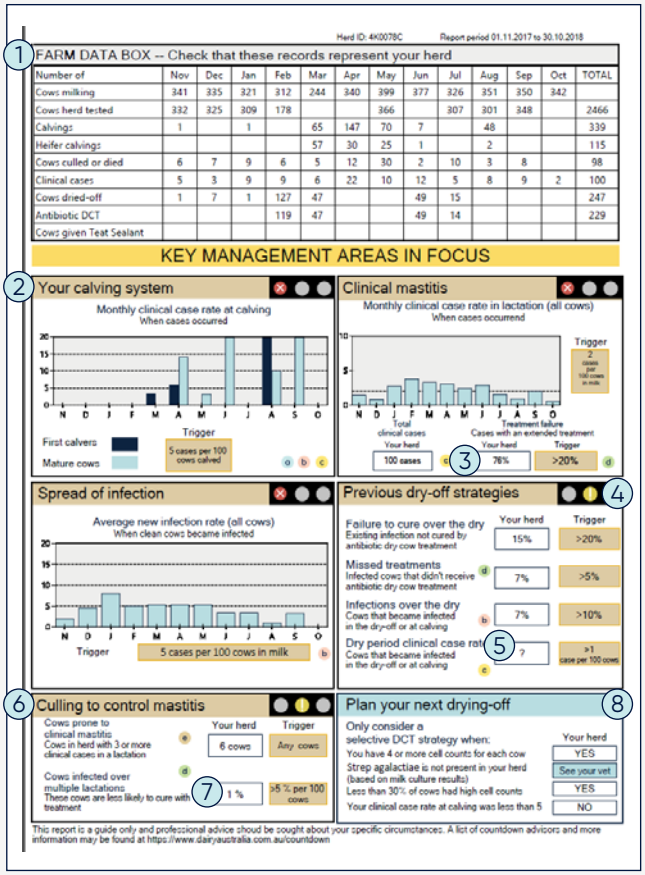
4 This box displays your clinical mastitis case rate **during lactation**. If these levels are above the trigger, evaluate mastitis management during lactation using the Farm Guidelines 5-13.

5 These boxes display the rate at which first calvers and uninfected cows are becoming infected (both clinical and subclinical mastitis). The measures indicate how effective mastitis control is in this herd overall.

6 The coloured letters link the measure to one or more of the five key areas of mastitis control (See Page 3)

7 The traffic light symbols highlight the key areas requiring attention. IR stands for 'insufficient records' and identifies where the data is insufficient.

8 This box displays the proportion of cows infected in the previous lactation that were not cured by antibiotic dry cow therapy. If these levels are above the trigger, evaluate mastitis management in late lactation, at dry-off and over the dry period using the Farm Guidelines 14-21.



1 This box displays the raw data behind the report calculations for the period nominated. **Always check the data accurately reflects your herd.** If the data does not closely reflect your herd, refer to the *Countdown Mastitis Focus Report* User Guide, or contact your advisor or your herd recording centre. This section tells you which farm data has been included in your analysis and how missing data will affect the report.

2 This box displays the monthly clinical case rate at calving for first calvers and mature cows separately. Use this information to identify problem periods or target interventions in particular times of the year.

3 This box indicates how effective a standard course of lactating cow treatment is in your herd. To measure this, it is essential to record every individual treatment. If these levels are above the trigger contact your vet.

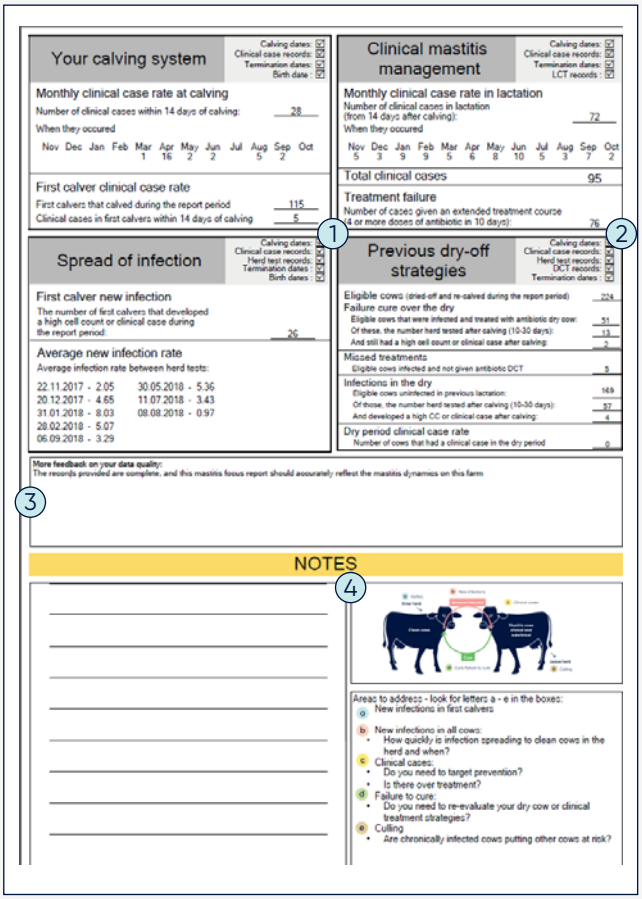
4 Use this box to review your dry off strategies. If these levels are above the trigger, evaluate mastitis management in late lactation, at dry-off and over the dry period using the Farm Guidelines 14-21.

5 If a question mark is displayed, there is insufficient farm data to calculate this measure.

6 This box displays the monthly subclinical infection rate. Use this information to identify problem periods or target interventions in particular times of the year. If these levels are above the trigger, evaluate mastitis management in late lactation, at dry-off and over the dry period using the Farm Guidelines 5-13 and 15.

7 This box displays the percentage of cows that should be culled due to chronic mastitis. If these levels are above the trigger, evaluate your mastitis culling policy using the Farm Guideline 15.

8 This box will help you plan your next dry-off strategy.

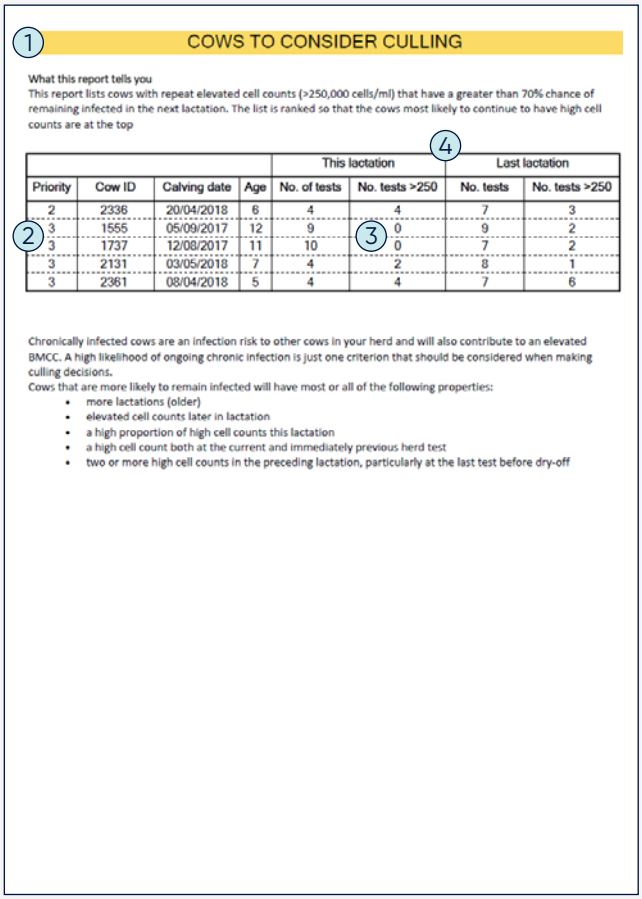


1 This section shows the raw data behind the calculations on the previous two pages. Each box relates to the corresponding graphically displayed box(es) on the previous pages.

2 These tick boxes display which records are needed to calculate the measures in each key management area. A ticked box indicates records were available for analysis. An un-ticked box means not all measures can be calculated.

3 Additional data quality issues may be displayed here. These either have a lower impact on the accuracy of the report or are present because there are a large number of data issues and not all will fit on the front page.

4 These are the five key areas of mastitis control and is the key to interpreting the coloured letters in the boxes previous pages. The coloured letters indicate the way in which the calculated parameters in that box relate to a key area(s) of mastitis control.



1 The cows displayed on this page are highly likely to have two or more high cell counts in the next lactation.

2 The priority for culling is based on the likelihood of high cell counts; 1= 90% chance, 2 = 80% chance and 3 = 70% chance. Some herds may not have priority 1 or 2 cows.

3 Older cows that currently have low cell counts may appear on this list when they had two or more high cell counts in the previous lactation.

4 The list will display up to 15% of the herd. If more than 15% of cows are predicted to have high cell counts next lactation, the report will display the 15% highest priority cows and produce a message that there are additional cows not reported.

COUNTDOWN MASTITIS FOCUS REPORT DEFINITIONS

All measures in the Countdown Mastitis Focus Report that have the word 'rate' are true rates. True rates provide an accurate and repeatable way of measuring how quickly events occur in dynamic populations.

The denominator of a rate is time-at risk and the basic formula is:

$$\frac{\text{number of events (e.g., clinical cases)}}{\text{time at risk (e.g., cow days)}}$$

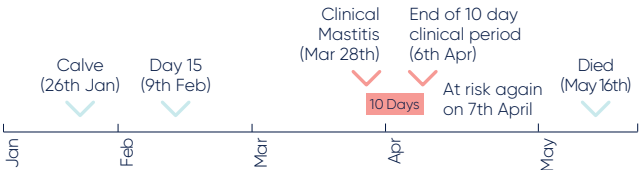
Each day that a cow is 'at risk' of an event happening is counted. For example, when measuring clinical cases in lactation, the count starts at day 15 of the lactation period and continues to the end of the report period unless:

1 The event occurs (count to the day she becomes clinical), or
2 She is no longer at risk of becoming clinical (e.g., at the end of the lactation, or the day she was culled or died).

Days 1 to 14 of the lactation period are included in the calving period calculation.

Accurate calculation of rates relies on correct, up-to-date events, drying-off and termination dates for all cows.

The diagram below is an example of how the denominator for the monthly clinical case rate in lactation (example given for one cow) is measured.



Time at risk:
Jan – 0 days
Feb – 19 days
Mar – 27 days
Apr – 24 days
May – 15 days (not at risk on day of termination

Clinical case

For the purposes of the Countdown Mastitis Focus Report, a clinical case refers to any cow receiving one or more doses of LCT or that are listed as having a clinical mastitis event. Doses of LCT given more than 10 days apart are regarded as a new course of treatment and therefore a new case.

Calving time mastitis

The calving time is defined in the Countdown Mastitis Focus Report as the first 14 days after calving. This enables a clear distinction to be made between events at calving time and events associated with entry of cows into the milking herd when assessing clinical cases and new infections.

First calver

The Countdown Mastitis Focus Report defines first calvers as animals that:

1 Are less than three years of age at the time of calving; and,
2 Do not have a previous lactation record.

Only animals whose date of birth is submitted will be included in the performance measures relating to first calvers.

New infection

New infections describe the spread of infection in a herd. The Countdown Mastitis Focus Report defines these as previously uninfected cows that become infected either clinically or subclinically. 'Uninfected' cows included in the calculation of the new infection rate include first calvers, cows that cured following DCT, self-cures over the dry period, cows that cured following LCT and cows with no evidence of infection in the preceding lactation. New infections over the dry period, which describes how well the dry cow strategies used in a herd have protected uninfected cows, is based only on cows that had no evidence of infection in the preceding lactation.

READING A COUNTDOWN MASTITIS FOCUS REPORT

Report details

The report covers the 12 months preceding the end date you nominate and the calving range. It is important to check that the calving dates and total calvings accurately reflect your herd.

Report Period	01.11.2017 – 30.10.2018
First calving to last calving	09.11.2017 – 30.08.2018
Total calvings	339
Herd ID	4K0078C
Generated	05.04.2021

Data quality

This section tells you which farm data has been included in your analysis and how any missing data will affect the report. An orange or red traffic light will display when data quality is incomplete. Consider these limitations when interpreting the report.

Key mastitis parameters impacting profitability

Clinical case rates

The key parameters summary gives the average clinical case rates for the report period. They are the monthly figures, as seen in the calving and clinical case management graphs respectively, rolled into one figure for the twelve-month report period.

The summary rate should always be considered alongside the monthly rates as it is possible to have summary rates below the trigger yet still have clinical case problems in some months.

Cost of mastitis

The economic impact of clinical mastitis cases on a dairy farm business can be significant. These impacts come from the cost of the treatment, discarded milk, and extra work to detect, manage and treat cows with mastitis.

There are also less obvious, or hidden costs. These include reduced milk production for the remainder of the lactation, the risk that a cow may need to be culled if she does not recover, and the risk of antibiotic residues inadvertently making their way into the vat.

The assumptions used to calculate the average cost of a case of clinical mastitis are outlined in the table below. They are calculated for an average farm based on 2019 industry averages. They include an assumed milk price of 50c/L (approximately $6.25 per kilogram of milk solids) and an average annual production of 6,150L per cow.

Cost item	Application	$
Cost of treatment		
Intra-mammary antibiotics	3 tubes at $7.00	21
Injectable antibiotics	$20 for 1 in 10 cases	2
Anti-inflammatory medicines	$20 for 1 in 10 cases	2
Vet visit	$300 for 1 in 100 cases	1
Extra time in shed	5 min/milking for 18 milkings @ $25/hr	38
Discarded milk	9 days at 21 litres/day @ 50 cents/litre	94
Decreased yield for remainder of lactation	For cases in early lactation, allow 3.4% reduction in 300-day yield. For this herd, that is 209L @ 50 cents/litre	104
Risk of death	1 in 150 cases, cow value $1500	15
Risk of culling	1 in 10 cases @ $800 change over	88
Risk of contaminating the vat with antibiotic residues	1 in 1000 cases @ $12,500	1
TOTAL		**$366**

New infection rates

The monthly new infection rate for all cows is also the average rate for the report period, rolling the monthly rate, from the spread of infection graph, into one. It can only be assessed in herds that are herd testing.

This rate measures how quickly clean cows are becoming infected and developing either clinical mastitis or high ICCCs. It is not an intuitive measure as, unlike clinical cases, you cannot see subclinical infections spreading on farm.

The % first calvers infected by the end of their first lactation considers lactations of first calvers that fell within the report period from day of calving onwards. This shows the proportion (not a rate) of first calvers that became infected. It requires birthdate and ICCC and is a 'pure' indicator group for spread of infection. This is because first calvers should enter the herd uninfected.

How the measure is calculated:

First calver new infection =	# first calvers that became infected / # first calving lactations during the report period	x 100 (to convert to %)

Failure to cure over the dry

This box displays the proportion of cows infected in the previous lactation that were not cured by antibiotic DCT and requires ICCC (herd test) data. If the first two ICCCs of the lactation after DCT are greater than 250,000 cells/ml it is considered a fail to cure.

The measures in this box are used assess the effectiveness of the dry cow strategy and may be influenced by factors such as milk production levels at drying-off, administration hygiene and drug choice.

Farm data box

This box displays the raw data behind the report calculations for the period nominated. If data does not closely reflect your herd, you will need to closely review your data quality. Refer to the 'Generating a Countdown Mastitis Focus Report' section earlier in this User Guide, contact your herd recording centre or e-mail **countdown@dairyaustralia.com.au**.

Always check that data in the farm data box accurately reflects your herd.

Key management areas in focus

The Countdown Mastitis Focus Report gives an overview of herd performance for five key parameters. These include:

1 Clinical mastitis at calving ('Your calving system' box)

2 Clinical mastitis in lactation ('Clinical mastitis' box)

3 Spread of infection

4 Previous dry-off strategies

5 Culling ('Culling to control mastitis' box)

The measures are displayed graphically on Page 2 or numerically on Page 3 of the Countdown Mastitis Focus Report.

Each management area has a green, orange, or red traffic light (performance) rating on Page 2 to give the reader a sense of what is on-track and which areas require improvement or further investigation using the Countdown Mastitis Investigation Pack.

To download the Countdown Mastitis Investigation Pack, visit **dairyaustralia.com.au/countdown**

Your calving system box

The monthly clinical case rate at calving (all cows) includes every calving during the report period and calculates clinical case rates in the first 14 days after calving for first calvers and mature cows separately.

The box displays clinical case rates at calving time by month. This should be assessed to determine if any months show clinical case rates at calving above the trigger of 5 cases per 100 cows calved. This box should be used to assess calving and fresh cow management.

How the measures are calculated:

Monthly clinical case rate at calving =	# clinical cases at calving for each month / # days at risk contributed by each cow that calved for that month (up to 14 days)	x 3,000 (to convert to 100 cows per month)

First calver clinical case rate =	# clinical cases in first calvers at calving over the report period / # days at risk for first calvers (up to 14 days)	(to convert to 100 cows per month)

If too many animals have been classed as first calvers it indicates that not all birthdates were available. The clinical case rate for this group will also be incorrect.

If this box indicates improvements are required, it is suggested to pay particular attention to the findings in the following Countdown Mastitis Investigation Pack sections:

- Section H – Clinical cases
- Section M – The environment
- Section N – Dry-off
- Section O – Calving

Clinical mastitis box

The clinical mastitis case rate during lactation includes every lactation, or part thereof, for each month of the report period and calculates clinical case rates from 15 days after calving onwards. The box displays clinical case rates during lactation by month. This should be assessed to determine if any months show clinical case rates during lactation above the trigger of 2 cases per 100 cows calved.

The total clinical cases boxes count all clinical cases in the report period. A new case in an individual cow is defined as LCT being given more than 10 days after the start of treatment. This measure is used to assess the extent and cost of clinical cases in a herd.

The treatment failure box displays the proportion of cases that required more than three doses in a 10-day period. This is only calculated if each individual LCT dose has been recorded. It is important to note that this figure may be artificially inflated in cases where multiple quarters are treated. This measure is used to assess the success of the farm protocol for treatment of clinical mastitis.

How the measures are calculated:

Monthly clinical case rate in lactation =	# clinical cases in lactation for each month / # days at risk contributed by each lactating cow for that month	x 3,000 (to convert to 100 cows per month)
Total clinical cases =	# clinical cases over the report period	
Treatment failure =	# cases receiving 4 or more doses LCT in 10 days / # clinical cases over the report period	x 100 (to convert to %)

If this box indicates improvements are required, it is suggested to pay particular attention to the findings in the following *Countdown Mastitis Investigation Pack* sections:

- Culling for mastitis in Section A – Staff and herd profile
- Section G – Milking routines
- Section H – Clinical cases
- Section I – Teat condition
- Section L – Teat disinfection

Spread of infection

The average new infection rate (all cows) measures new clinical and subclinical infections from the day of calving onwards. Calculation of this measure requires ICCC (herd test) data and subclinically infected cows (defined as having an ICCC over 250,000 cells/ml). 'Uninfected' cows included in the calculation of the new infection rate include first calvers, cows that cured following DCT, self-cures over the dry period, cows that cured following LCT and cows with no evidence of infection in the preceding lactation. The eligibility of cows can change over time as more data becomes available and accuracy of this measure improves with increasing frequency of herd testing. Staying below trigger level may be difficult to achieve for many herds.

How the measures are calculated:

First calver new infection =	# first calvers that became infected / # first calving lactations during the report period	x 100 (to convert to %)
Average new infection rate =	# uninfected cows that became infected during each herd testing interval / # days at risk contributed by each uninfected cow for the herd testing interval	x 3,000 (to convert to 100 cows per month)

If this box indicates improvements are required, it is suggested to pay particular attention to the findings in the following *Countdown Mastitis Investigation Pack* sections:

- Culling for mastitis in Section A – Staff and herd profile
- Section C – Bulk milk PCR and milk cultures
- Section G – Milking routines
- Section H – Clinical cases
- Section I – Teat condition
- Section L – Teat disinfection
- Section M – The environment
- Section N – Dry-off
- Section O – Calving

Previous dry-off strategies

The 12-month report period will cover more than one drying-off strategy for many herds. The measures used in this key management area summarise their overall performance.

For this management area, criteria are used to keep performance measures focussed on events over the dry period and at calving.

For example, all measures except dry period clinical case rate are limited to cows that both dried-off and re-calved within the report period (i.e., they had a complete dry period within the report period).

The failure to cure over the dry and new infections over the dry are both limited to cows herd tested within 10-30 days of calving. Dry period clinical case rate reports on clinical cases in dry cows for any dry period that started during the report period (i.e., she does not need to have re-calved).

This approach ensures reliable measurement of the outcomes but only in a subset of the herd.

Failure to cure over the dry, missed treatments and new infections over the dry require ICCC (herd test) data for calculation.

Failure to cure over the dry

The failure to cure over the dry measure indicates the proportion of cows infected in the previous lactation that were not cured by antibiotic DCT and requires ICCC (herd test) data. Fail to cure is defined as the first two ICCCs of the lactation after DCT are greater than 250,000 cells/ml.

The measures in this box are used assess the effectiveness of the dry cow strategy and may be influenced by factors such as milk production levels at drying-off, administration hygiene and drug choice.

Missed treatments

The missed treatments measure indicates the proportion of infected cows dried-off during the report period that did not receive antibiotic (DCT). It enables an assessment of whether cows are being given ample opportunity to cure over the dry and is particularly important in herds using selective DCT strategies. This measure also requires ICCC (herd test) data.

New infections over the dry

The new infections over the dry measure indicates proportion of cows that became infected over the dry period or at calving. The calculation only includes those cows with four or more low ICCCs in the previous lactation and had no evidence of infection. A new infection is defined as a clinical mastitis case within 14 days or high ICCCs 10-30 days of calving. It is used to assess whether the dry cow strategy (either selective or blanket) was effective at protecting clean or uninfected cows becoming infected over their dry period and at their subsequent calving.

Dry period clinical case rate

The dry period clinical case rate indicates the average rate for the report period to assess the adequacy of the dry-off procedure. It is likely clinical mastitis cases may be under-detected, and hence, under-reported during the dry depending on frequency of observation.

How the measures are calculated:

Failure to cure over the dry =	# cows infected in previous lactation, given DCT, calve and still infected in new lactation / # cows infected in previous lactation, given DCT and calve during the report period	x 100 (to convert to %)
Missed treatments =	# infected cows, dried-off and not given DCT / # infected cows dried-off during the report period	x 100 (to convert to %)
New infections over the dry =	# cows with low ICCCs in previous lactation that were infected at calving / # cows with low ICCCs in previous lactation that calved during the report period	x 100 (to convert to %)
Dry period clinical case rate =	# clinical cases between dry-off and calving / # days at risk contributed by each cow dried-off over the report period	x 3,000 (to convert to 100 cows per month)

Failure to cure over the dry & infections over the dry can only be assessed on cows that were herd tested in the first month after calving. If these numbers are low, then the results may not be a true representation of the herd.

If this box indicates improvements are required, it is suggested to pay particular attention to the findings in the following *Countdown Mastitis Investigation Pack* sections:

- Culling for mastitis in Section A – Staff and herd profile
- Section C – Bulk milk PCR and milk cultures
- Section N – Dry-off
- Section O – Calving

Culling to control mastitis

Mastitis is just one consideration when deciding which cows to cull. The classes of cows described below are high priority culls for udder health. They are the start of strategic culling (and not the policy in total).

Cows prone to clinical mastitis

Cows prone to clinical mastitis indicates the number of cows that had three or more clinical cases during a lactation. This measure only shows cows that remain in the herd. These cows are a significant source of infection to other cows in the herd and are therefore high priority culls

Cows infected in multiple lactations

Cows infected in multiple lactations indicates the number of cows infected over two consecutive lactations despite intervening DCT. It requires ICCC data for calculation and only includes cows that remain in the herd. As for cows prone to clinical mastitis, these cows are chronically infected and should be considered for culling.

How the measures are calculated:

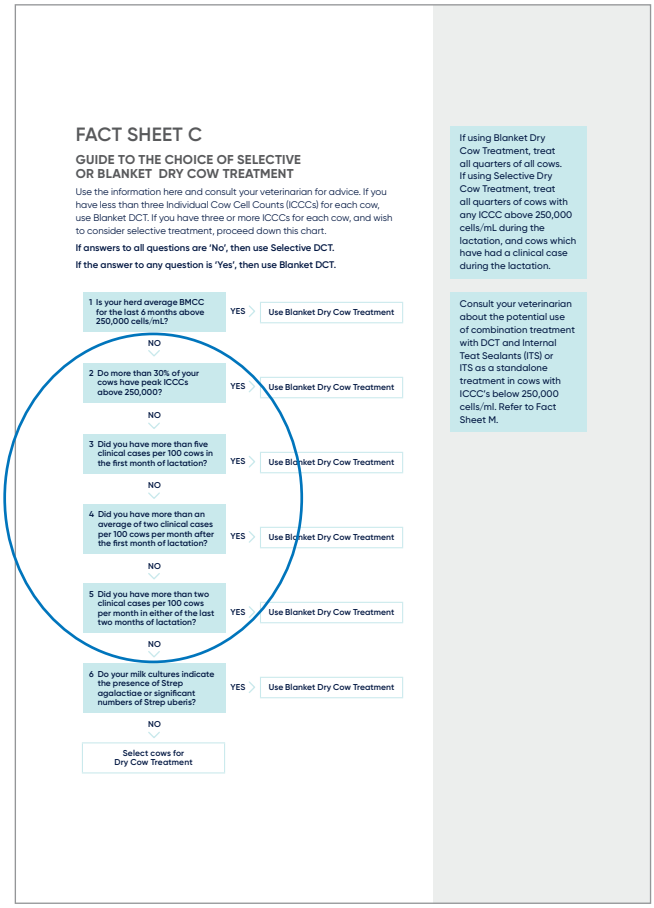
Cows prone to clinical mastitis =	# cows that had three or more clinical cases during a lactation and remain in the herd
Cows infected in multiple lactations =	# cows infected in three consecutive lactations despite intervening DCT that remain in the herd

If this box indicates improvements are required, it is suggested to pay particular attention to the findings in the following *Countdown Mastitis Investigation Pack* sections:

- Culling for mastitis in Section A – Staff and herd profile
- Section N – Dry-off

Plan your next drying-off

This section of the Countdown Mastitis Focus Report helps determine the strategy for the next dry-off. It enables questions at the start of the flow diagram in Fact Sheet C of the *Countdown Farm Guidelines for Mastitis Control* to be answered objectively. Refer to the fact sheet for the next steps if the answers are all 'yes' and a selective strategy is an option.



FACT SHEET C

GUIDE TO THE CHOICE OF SELECTIVE OR BLANKET DRY COW TREATMENT

Use the information here and consult your veterinarian for advice. If you have less than three Individual Cow Cell Counts (ICCCs) for each cow, use Blanket DCT. If you have three or more ICCCs for each cow, and wish to consider selective treatment, proceed down this chart.

If answers to all questions are 'No', then use Selective DCT.

If the answer to any question is 'Yes', then use Blanket DCT.

1 Is your herd average BMCC for the last 6 months above 250,000 cells/mL? YES → Use Blanket Dry Cow Treatment

NO

2 Do more than 30% of your cows have peak ICCCs above 250,000? YES → Use Blanket Dry Cow Treatment

NO

3 Did you have more than five clinical cases per 100 cows in the first month of lactation? YES → Use Blanket Dry Cow Treatment

NO

4 Did you have more than an average of two clinical cases per 100 cows per month after the first month of lactation? YES → Use Blanket Dry Cow Treatment

NO

5 Did you have more than two clinical cases per 100 cows per month in either of the last two months of lactation? YES → Use Blanket Dry Cow Treatment

NO

6 Do your milk cultures indicate the presence of Strep agalactiae or significant numbers of Strep uberis? YES → Use Blanket Dry Cow Treatment

NO

Select cows for Dry Cow Treatment

If using Blanket Dry Cow Treatment, treat all quarters of all cows. If using Selective Dry Cow Treatment, treat all quarters of cows with any ICCC above 250,000 cells/mL during the lactation, and cows which have had a clinical case during the lactation.

Consult your veterinarian about the potential use of combination treatment with DCT and Internal Teat Sealants (ITS) or ITS as a standalone treatment in cows with ICCC's below 250,000 cells/ml. Refer to Fact Sheet M.

COWS TO CONSIDER CULLING

This is a new feature of the Countdown Mastitis Focus Report. The cows displayed on this page are highly likely to have two or more high ICCCs in the next lactation according to a model developed by Dr Richard Sheppard. Cows are rated as a Priority 1 to 3 for culling based on the likelihood of high ICCCs next lactation. Priority 1 cows have a >90% chance of high ICCCs, Priority 2 have an 80% chance of high ICCCs and Priority 3 have a 70% chance of high ICCCs. Some herds may not have any Priority 1 or 2 cows. Older cows with that currently have low ICCCs may appear on this list when they had two or more high ICCCs in the previous lactation. The list will display up to 15% of the herd. If more than 15% of cows are predicted to have high ICCCs next lactation, the report will display the 15% highest priority cows and produce a message that there are additional cows not reported.

TROUBLESHOOTING

If after working through this user guide you are still having difficulty generating or reading your Countdown Mastitis Focus Report, please e-mail **countdown@dairyaustralia.com.au** for additional technical support.

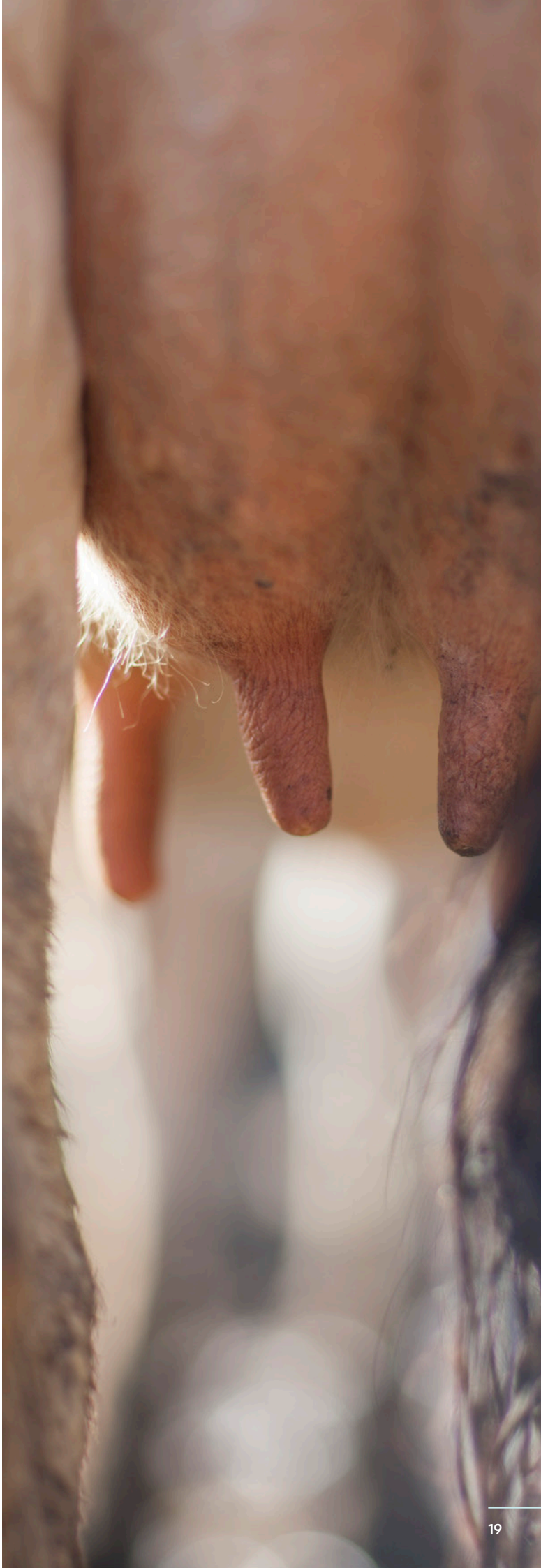
For assistance setting up a DataVat login or for troubleshooting DataVat, please contact DataGene by e-mailing **datavathelp@datagene.com.au**.

RESOURCES

Key resources to support your use of the Countdown Mastitis Focus Report include:

- Countdown Farm Guidelines for Mastitis Control
- Countdown Technotes
- Countdown Mastitis Investigation Pack

A full list of Countdown resources is available at **dairyaustralia.com.au/countdown**.



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