

Drying-off

One week before drying-off to
one week after

GUIDELINE

16

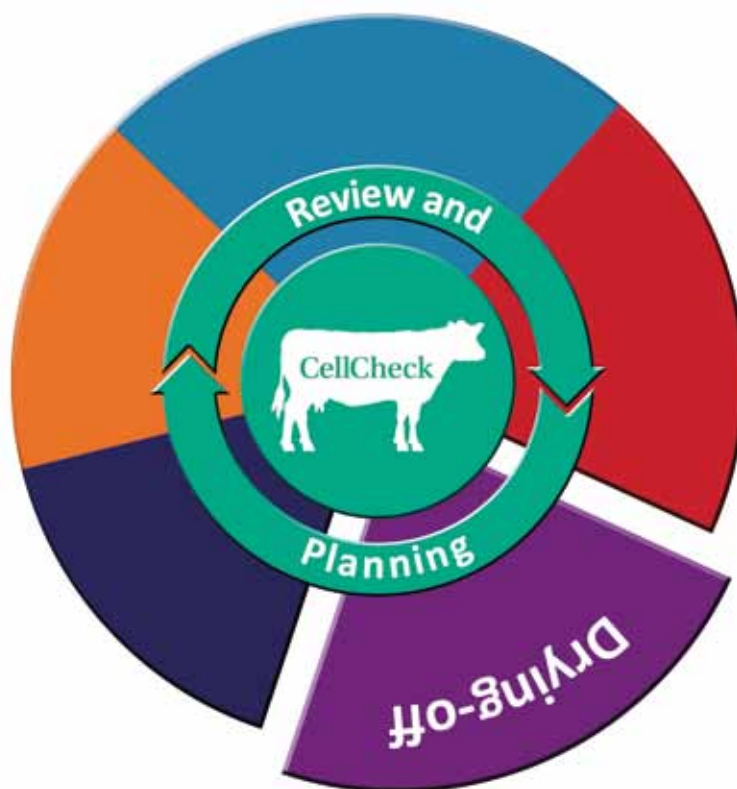
Dry-off abruptly taking steps to
reduce yields

17

Administer dry cow treatment (DCT)
as recommended

18

Check udders daily



One week before drying-off to one week after

The method used to dry-off cows can influence how many udder infections establish during the dry period. The infection risk is 5 - 7 times higher during the early dry period and just prior to calving when compared with during lactation hence the importance of good management of the drying-off event.

As cows near the end of lactation their milk quality changes i.e. levels of lactose decrease and SCC increases. Milk from low-producing cows may cause processing problems for some dairy products. Cows producing less than 9 L/day may have an elevated somatic cell count even if uninfected. They may contribute to a higher bulk tank SCC (especially in seasonal herds), even though their milk volume is low.

Udder infections during the dry period can be minimised by events at drying-off. The aim is to shut down milk secretion and seal the teat canal as rapidly as possible - this sealing usually takes about two weeks. Research has shown that virtually all new infections occur in quarters where the teat canal has not sealed.

Intermittent milking provides an on-going stimulus to produce milk and impedes teat sealing. In the lead up to drying-off if the frequency of milking is changed e.g. 'skip-a-day' or 'once-a-day' milking, mastitis risk is greatly increased.

During the first two weeks after drying-off, it is also important to minimise the number of bacteria that contaminate the teats.

Teat dipping after the last milking ensures complete coverage of the teat by disinfectant and reduces the number of contagious mastitis bacteria present on the skin.

To reduce the number of environmental mastitis bacteria, areas where cows lie should be as clean as possible. There should be no bare ground or heavy manure on outdoor pads and housing should be clean. Outbreaks of *E. coli* mastitis have been recorded in situations where cows lie in wet conditions in the first few days immediately after drying-off. These infections may be very severe (often fatal) and can be challenging to treat.



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Dry-off abruptly taking steps to reduce yields

- Yields below 9 L
- Reducing yields
- Manipulating diet
- Drying-off areas
- Maintaining water supply

16.1 Dry-off cows as soon as their production reaches 9 L or less per day.

16.2 Cease milking cows producing 12 L or less per day at the drying-off date.

16.3 Take steps with cows producing more than 12 L/day, to reduce production to 12 L/day or less by the drying-off date. These steps involve reducing food intake and changing routine.

Decide the date of the final milking for target cows.

Start preparation for drying-off at least a week before the date of the final milking.

One week prior to the final milking date:

- reduce concentrate feeding to less than 2 kg per cow per day.

Three days prior to the final milking date:

Where indoors

- cease concentrate feeding
- separate the cows from the main herd if practical.

Where outdoors

- as above
- move to a paddock with minimal pasture.

Continue the 'maintenance only' diet for another 3 - 4 days after drying-off for these cows.

Animal welfare guidelines require that water is available throughout the drying-off process.



Refer to Guideline 17:
Administer dry cow treatment (DCT) as recommended.



Refer to Management Note L:
The impact of housing on mastitis and SCC.

16.4 **Dry-off abruptly; do not skip days and preferably do not skip milkings.**

Milk out as usual at each milking until drying-off.

Do not deliberately leave some milk in the udder (undermilk). It is not necessary to leave milk in the udder at the last milking to improve the action of antibiotic dry cow treatment (DCT).

At the last milking:

- milk out as usual
- administer antibiotic DCT as recommended by CellCheck Guideline 17
- administer teat sealer as recommended
- cover whole surface of teat in freshly prepared teat disinfectant (dip is preferable to spray).

16.5 **Don't leave cows in roadways or yards immediately after drying-off.**

Avoid allowing them to lie down on bare ground or areas that are soiled with manure in the two hours immediately after you administer DCT.

16.6 **Put the cows in a dry, clean paddock (not heavily soiled with manure, no bare ground, no exposure to dairy effluent) for 3 - 4 days after drying-off.**

This paddock should be well away from the milking herd and the milking area, so cows don't have the stimulus to let down milk.

16.7 **If the cows are being housed directly after DCT, ensure that cows have access to clean dry cubicles immediately after you administer DCT.**

This house should ideally be well away from the milking herd and the milking area, so cows don't have the stimulus to let down milk.

Maintain the cubicles in a clean hygienic manner throughout the dry period.

It is important to allow access to water at all times.



GUIDELINE

17

Administer dry cow treatment (DCT) as recommended

- Avoiding injuries
- Udder marking
- Disinfecting teat ends
- Recording treatment
- Withholding periods
- Drying-off environment

Administration of dry cow treatment (DCT) has some hazards, for cows and operators. It is critical that it is carried out properly.

It is easy to introduce bacteria into the teat if the teat end is not disinfected properly, or it is contaminated before it has sealed. Infection with environmental bacteria can cause severe mastitis.

Operators can be injured by cows during administration of DCT; it is important to take your time and have sufficient help.

Antibiotic residues in milk and meat must be avoided by observing the minimum dry periods and withholding periods after calving which are specified for each product.

This is particularly important where cows are culled during the dry period, or calve earlier than expected.

17.1 Plan for the time and effort that treating cows with DCT takes.

Administration of DCT is a critical and difficult job. Ensure that responsible operators are trained adequately in the procedure and supervised well.

To do a good job with DCT, one person can only handle about 20 cows per hour.

More than one person is often needed to do the job well and reduce the hazards associated with the procedure, especially if cows are not used to having their teats handled.

Select reasonably sized groups of cows to be treated after any one milking, especially in seasonal herds.

If practicable, at the previous milking, draft out the next batch of cows to be treated. Milk and treat these cows before bringing the remainder of the herd through the parlour. This ensures maximum cleanliness of the plant at the time of treatment.

Wash out the parlour between batches of cows if several batches are to be treated after one milking.



Staff training.

Proper teat end preparation and using the correct intramammary infusion technique are essential.

Consider a refresher demonstration for staff involved before drying-off starts.

Ask your vet or CellCheck Advisor for this staff training.



Refer to Management Note C: Guide to the choice of selective or blanket dry cow treatment.

Refer to Guideline 14: Decide dry cow management strategy.



Take a break.

Don't dry-off cows when you're stressed, tired and hungry. If you wish you weren't doing the job, stop. Mistakes made now cannot be corrected later, and will leave cows at risk of mastitis in the following lactation.



Refer to Management Note D: The correct way to give dry cow intramammary treatments.

17.2 Make the choice between blanket or selective DCT. Selective DCT will reduce the antibiotic use but is only suitable for herds with low SCC levels.

Only consider using in herds with an average herd SCC < 200,000 cells/mL. In herds >200,000 cells/mL treat all cows with Blanket DCT.

17.3 Do not use DCT on cows that are going to be culled.

If animals that have received DCT are subsequently added to the cull list, adhere to the relevant meat withdrawal times for those cull cows.

17.4 Use DCT only at the cow's last milking for the current lactation.

DCT is registered only for use immediately after a cow's last milking. Use of antibiotics in any way other than as per manufacturers written instructions is called off-label use. Off-label use is strongly discouraged because drug residue risks increase and cure rates are likely to be reduced.

17.5 Mark the cows for treatment.

By marking the cows before you start you will ensure you treat the correct cows, and also avoid any mistakes where a cow can mistakenly get left out without being marked. Use spray paint on the udder, or tail tape to ensure that all milkers can clearly see that the cows have been treated.

17.6 Administer the treatments as recommended ensuring the teat ends are sanitised properly.

There is further detail in Management Note D about this process.

17.7 Treat all quarters of cows to receive DCT except quarters that have been dried off for some time i.e. cows milked as 'three teaters'.

If a quarter is dry, absorption of the antibiotic DCT in the quarter will be changed. Administering a dry cow intramammary tube into these quarters is off-label use. Off-label use is strongly discouraged because drug residue risks increase and cure rates are likely to be reduced. Injectable antibiotics may be used in these cases - consult with your vet.



17.8 Dip teats with freshly made up teat disinfectant after treatment.

Even if you usually spray, dipping is preferable after DCT to ensure complete coverage of the teat. Ensure teat dip is changed regularly to avoid any cross contamination between cows at this time.

17.9 Double check that you have correctly marked the udder (e.g. with a spray paint) so that cows that have received DCT can be easily recognised.

This allows easy recognition if cows re-join the herd in error.

17.10 Record cow ID, date and product details of all DCT.

If cows calve early, or a decision to cull them during the dry period is made, the date of treatment and the withholding period of the particular product must be known.

For each batch of cows treated, mark the earliest calving date allowable for the meat withholding period and minimum dry period to pass. Check the label.

17.11 Keep cows in clean areas immediately after dry cow treatment.

Avoid allowing them to lie down on bare ground or areas that are soiled with manure in the two hours immediately after you give DCT.

17.12 Put the cows in a dry, clean area (not heavily soiled with manure, no bare ground, no exposure to dairy effluent) for 3 - 4 days after dry cow treatment.

Outdoors - This paddock should be well away from the milking herd. It is essential that cows treated with DCT are not able to re-join the herd in error. If they enter the dairy they will probably let down milk (reducing teat plug formation) and may have the clusters put on, leading to antibiotic contamination of the bulk tank.

Indoors - the cubicles should be clean and dry. They should be cleaned and limed twice daily.

17.13 To minimise milk and antibiotic leakage, do not walk cows long distances for 3 - 4 days after DCT is administered.



Internal teat sealers require a different method of administration:

- if using in conjunction with antibiotic DCT, administer the teat sealer LAST
- gently close off the top of the teat and insert the tube nozzle
- DO NOT massage the udder after infusing the product.

Refer to Management Note E:
Using teat sealers in your herd.

Refer to Management Note F:
Guide to withholding periods after use of use of dry cow treatment.



- Daily check
- Manual check
- Swollen quarters
- Clinical quarters
- Veterinary advice

Cows are susceptible to new infections particularly in the early dry period before their teats have sealed.

These infections must be identified and treated so that they do not persist and create problems after calving. Remember, however, the objective is to achieve teat plug formation quickly.

18.1 Look at udders of all cows for swollen quarters (larger than other quarters on the same cow)

Avoid bringing cows near the dairy area (or they may start running milk).

Observe every day.

Do not handle - just look.

If a quarter is swollen, bring the suspect cow into the dairy area and check the udder manually.

18.2 Check swollen quarters manually.

Check for heat and pain - compare between all quarters.

Strip secretion from suspect quarter and check. It may look different to milk prior to drying-off (e.g. thicker and more 'stringy') and therefore difficult to assess.

If suspicious, treat as a clinical case.

Do not remove milk or secretion from adjacent normal quarters.



Swollen quarters must be examined manually.



18.3 Treat clinical quarters by stripping out completely and using a full course of lactation antibiotic:

- get veterinary advice
- mark the cow
- use lactating cow intramammary antibiotic (even if dry cow treatment was previously used in the quarter)
- use the full course of the antibiotic (as recommended on the label)
- strip out completely and continue to strip out at least twice every day during the course of the treatment
- use injectable antibiotics where appropriate
- record clinical details.

18.4 Treat again with dry cow treatment (DCT) and amend record of date for Minimum Dry Period when the case is resolved.

For clinical cases that occur in the first week after drying-off, re-treatment with DCT is advised.

Any cows receiving re-treatment must have their details adjusted and withholding periods recorded. Consult with your vet about the correct withholding period for retreated cows.



Notes

