

# Late Lactation

Last 2 - 3 months of lactation

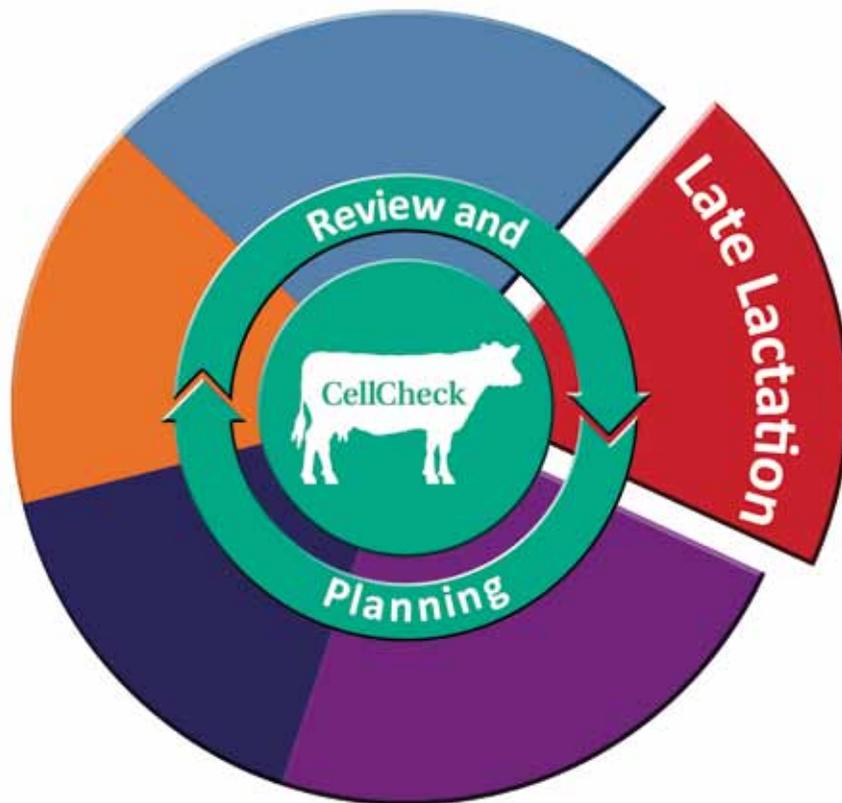
## GUIDELINE

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Decide dry cow management strategy

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Consider culling persistently infected cows



### Late Lactation

After each lactation, dairy cows require a dry period which is sufficiently long to allow the udder tissue to repair and rejuvenate. Many of the cells that produce milk are removed and replaced again before the next calving. A minimum of six weeks (preferably eight weeks) is recommended between drying-off and calving.

The last month before the end of lactation is key for mastitis control. While there may be a small rise in a cow's SCC in late lactation, any significant increases that we see at this stage are as a result of udder infection, which is often subclinical and by now, chronic. These cows with persistent infection have the potential to spread infection, as well as influence bulk tank SCC.

Late lactation is a time for decisions such as:

- what cows should be dried off early, and when?
- which cows need to be culled based on this year's mastitis records?
- what dry cow treatment (DCT) to use at drying-off?



## Decide dry cow management strategy

- Date to dry-off
- High cell count cows
- Collecting data
- Veterinary advice
- Blanket DCT
- Selective DCT
- DCT choice
- DCT storage

Dry cow treatment (DCT) is used to:

- treat existing infections which have not been cured during lactation
- reduce the number of new infections which may occur during the dry period.

There are two types of DCT for consideration:

1. antibiotic dry cow treatment
2. non-antibiotic dry cow treatment e.g. teat sealers.

Antibiotic DCT is a formulation of antibiotic prepared for administration into the udder immediately after the last milking of lactation. It is designed to remain in the udder in concentrations high enough to kill mastitis bacteria for a period which depends on the product used (usually between 20 and 70 days). The prolonged time of exposure to antibiotic and the formulation enhance penetration and give an increased chance of curing infections embedded deep in the udder.

Antibiotic DCT also protects udders from new infections in the dry period. This occurs directly through antibiotic being infused soon after drying-off, and indirectly by the physical sealing of the teat canal. New Zealand research has shown that quarters receiving DCT at drying-off had a significantly higher rate of closure of the teat canals in the first four weeks of the dry period than untreated quarters. Although the mechanism is not clear, this would suggest that DCT facilitates the physical sealing of the teat canal.

Antibiotic dry cow treatment products do not protect against some environmental bacteria which may be introduced into the udder if administration is not done very cleanly and carefully. These environmental bacteria may cause severe clinical mastitis.



**14.1 If you are considering switching to once-a-day milking for farm management reasons, be aware that this may affect your bulk tank somatic cell count.**

The same mastitis infection risks exist for both once-a-day milking and twice-a-day milking. Once-a-day milking during lactation does not itself appear to significantly increase the incidence of intramammary infection, however, it can increase the individual cow SCC and thus the bulk tank SCC.

If switching to once-a-day milking during lactation it may be necessary to dry-off high SCC cows early. Once-a-day milking is not recommended for herds with a bulk tank SCC > 200,000 cells/mL.

Discuss fully with your CellCheck Advisor regarding the suitability of your herd for this practice.

**14.2 Use expected calving dates to make a list of drying-off dates, ensuring that all cows get at least six weeks (preferably eight weeks) dry period.**

In seasonal calving herds it is often practical to plan to dry-off batches of cows. For those registered with ICBF HerdPlus expected calving dates are available on-line through this service.

Ensuring that the calving dates kept as part of your own records (and/or submitted to ICBF) are correct is essential for good management at calving.

**14.3 Consider drying-off high cell count cows early to help lower bulk tank SCC, and reduce the risk of spreading infection.**

These cows may jeopardise milk quality, especially in seasonal herds.

Other considerations (e.g. body condition score, production levels, feed availability) may also indicate that earlier drying-off dates are appropriate for some cows.

**14.4 Collect data to assess herd mastitis level.**

You will require:

- bulk tank SCC for the last six months
- individual cow SCC - at least three separate individual cow SCCs are needed, spread over the current lactation, for an accurate estimate of SCC
- records of clinical cases.



### 14.5 Plan dry cow treatment for your herd.

Blanket dry cow treatment (DCT) means treating all cows in the herd with intramammary antibiotic. Selective DCT means treating only selected cows with intramammary antibiotic.

If using blanket DCT, treat all quarters of all cows.

If using selective DCT, consult your CellCheck Advisor to look at criteria including the following:

- all cows with a peak SCC of above 200,000 cells/mL during the current lactation (assuming you have a full milk recording history for the year)
- all cows which have had a clinical case in the current lactation.

Treating first lactation cows has the best cure rates. If cows are culled after administration of dry cow treatment, observe withholding periods.

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

### 14.6 Choose the antibiotic DCT product to be used carefully - consult your vet.

Your vet will help you assess factors such as:

- previous culture results and antibiotic responses on your farm
- claimed cure rates of products for existing infections
- claimed period of protection of products for new infections
- required Minimum Dry Period and anticipated dry period of cows
- milk withdrawal periods
- benefits of teat sealer
- the option of using a combination of teat sealer and antibiotic DCT for your herd.

Currently it is not recommended to rotate your DCT antibiotic unless you have a specific reason e.g. previous poor response to treatment or identifying antibiotic resistance within your herd.

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

### 14.7 Purchase and store the antibiotic DCT and teat sealer you will need at drying-off.

Purchase the required number of tubes for all quarters of all cows to be treated.

Store in cool, clean environment.

Do not store antibiotic DCT near tubes of lactating cow antibiotic. This reduces the risk of accidental administration of dry cow treatment to milking cows.

Ensure you have methylated/surgical spirits and cotton balls, or disinfectant teat wipes to disinfect teat ends.



## GUIDELINE

## 15

Consider culling persistently infected  
COWS

- Cows with repeat mastitis cases
- High cell count cows
- Problems in consecutive lactations

Despite long action and formulation to maximise penetration, antibiotic dry cow treatment (DCT) does not cure all existing infections. Many studies worldwide have established that cure rates are lower for older cows with chronic infections. Some particular bacteria are also very difficult to treat successfully in all age groups. Culling cows is the only way to eliminate some infections.

Chronically infected cows are likely to be a source of bacteria for other cows. Culling cows with chronic infections helps protect the healthy, young cows which are the future of the herd. A small number of high cell count cows can have a significant effect on bulk tank SCC level and milk quality payments. A decision to cull these cows should be based on both the risk of spreading infection and economics. Although culling infected (particularly older) cows is a key strategy in mastitis control, it is an expensive option. Farm cell count problems are seldom solved by culling alone. Remember that failure to prevent new infections will mean that other cows take their place at the top of the high cell count list.

**15.1 Consider culling any cow when you find her third clinical case for this lactation.**

If only one quarter is involved, you may prefer to dry-off that quarter and milk the cow as a 'three teater'. Use a simple and clear ID method that all milkers are familiar with, to avoid the risk of accidental cluster application.

Ensure cows that have had three clinical cases of mastitis during the current lactation have been considered on the culling list.



**15.2 Consider culling cows with high somatic cell counts in two consecutive lactations, despite treatment with antibiotic DCT in the dry period in between.**

If strategic (voluntary) culling is possible in the herd, include somatic cell counts as a factor to be assessed.

Cows to consider for culling are those which are unlikely to cure. For example, cows which have persistently high somatic cell counts throughout two consecutive lactations (despite receiving antibiotic dry cow treatment in the dry period between). Other issues such as age, level of production and reproductive status must also be considered for each cow.

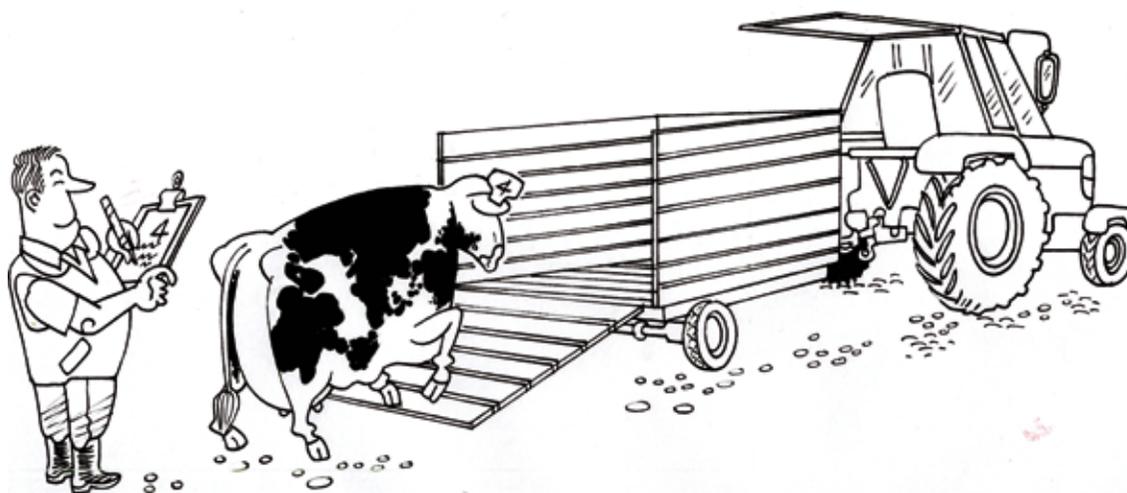
Do not use antibiotic DCT on cows which you are going to cull immediately.

For cows that have been treated and subsequently culled - the withholding period of the treatment must be adhered to.



**High cell count cows.**

If cows with high cell counts are retained in the herd they pose a risk to other cows. Separate them and milk them last if possible.



## Notes

Late  
Lactation

