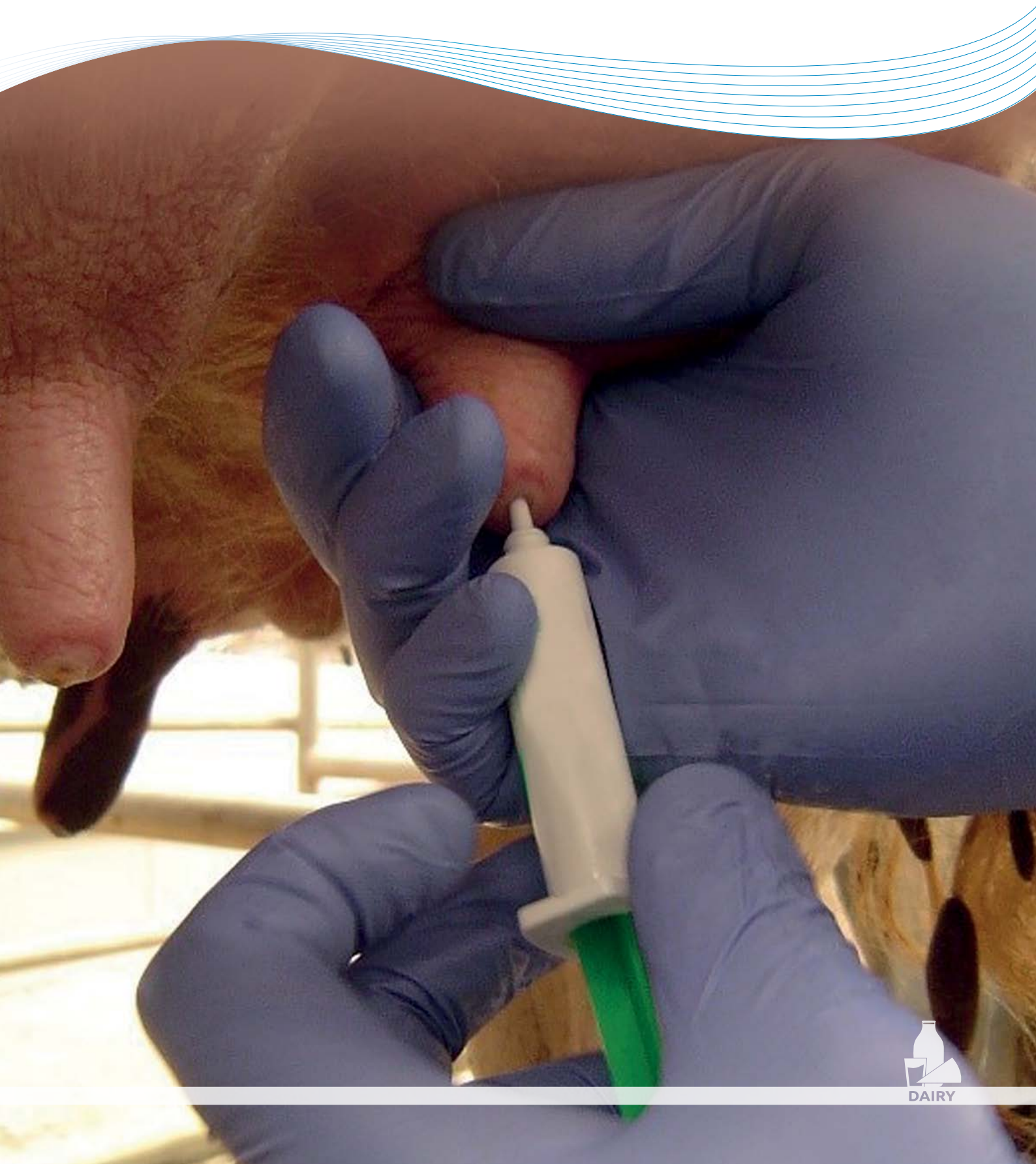


MASTITIS CONTROL PLAN



Dry cow management

A practical guide to effective mastitis control



Dry cow management

A practical guide to effective mastitis control

The dry period gives the cow and her udder a chance to recover and repair for the upcoming lactation. It is a crucial time, when new udder infections can occur from the environment even though clinical signs may not be seen until lactation.

The dry period is also the most important time for curing long-term infections, thereby reducing the number of high-somatic cell count (SCC) cows and cows with repeat cases of mastitis.

Important aspects of mastitis management at drying-off:

1. Preparation
2. Decision-making at drying-off
3. Drying-off protocol
4. Managing dry cow feeding
5. Dry cows at pasture
6. Dry cow housing
7. Calving management
8. Monitoring calving period outcomes

Key information

Throughout this set of separate Dry Cow Management guides, we have used green text boxes (just like this one) to highlight key messages and actions.

1. Preparation

Getting cows ready for the dry period involves several key areas:

- **Optimising cow body condition score**
- **Reducing milk yield**
- **Calculating optimum dry period length**
- **Reviewing dry cow feeding** – this is an important element of preparation due to its influence on the cows' immune status, both during the dry period and in the subsequent lactation (see Section 4 - Managing dry cow feeding)

Optimise cow body condition score

- Extended lactation length (more than 340 days, giving a calving interval of 400 days) is likely to lead to over-conditioned cows at drying-off, leading to:
 - Increased risk of metabolic disease
 - Poorer immune function in transition
 - Potential increases in subclinical (somatic cell count in cows) and clinical mastitis infections
- Score each cow two to four weeks before drying-off



Figure 1. Cow at body condition score 3

- At dry off, cows should have a body condition of 2.5–3.0. For cows outside this range, consider the points below, in consultation with your nutritional adviser:
 - Drying-off low-Body Condition Score (BCS) cows early to allow recovery of some body condition
 - Milking over-conditioned cows for longer with restricted energy intake

- Aim to dry off 90% of cows with a body condition score between 2.5 and 3.0



1. Preparation

Reduce milk yield before drying-off

- Only dry cows off when they are producing 15 litres of milk or less
- Drying cows off at more than 15 litres is a risk for new infection and this cannot be reduced by the use of antibiotic dry cow therapy
- If a cow is producing less than five litres, dry her off immediately to reduce infection risks
- Cows must not be milked once daily before drying off

Strategies to reduce milk yield depend on whether it is an individual cow issue or more of a herd-wide problem. Example strategies include:

Table 1. Example strategies for reducing milk yield before dry-off for individuals and herd

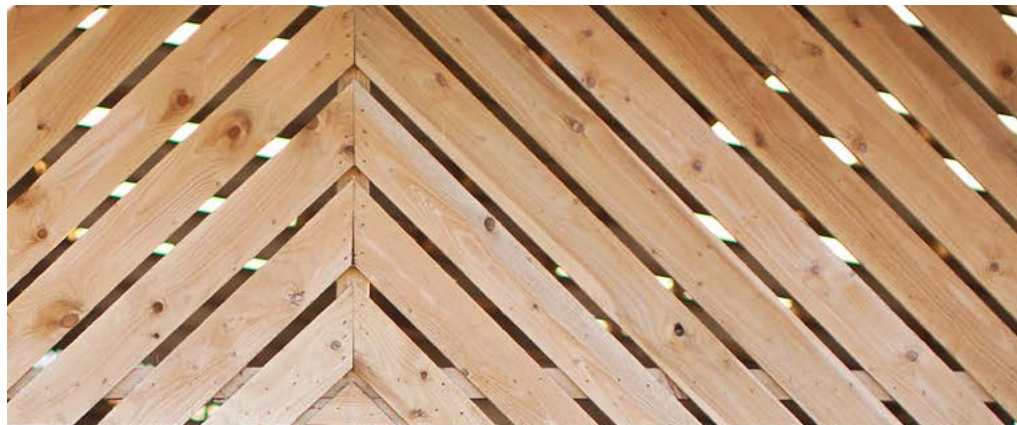
Individual	Herd
Regrouping	
Ration change	
	Change voluntary waiting period ¹
	Change dry period length

¹Target voluntary waiting period before first service: 44–55 days

Calculate dry-off dates and length of dry period

- Use expected calving dates, milk yield, body condition scores to calculate drying off dates
- All cows should have a dry period of 40–60 days
- Assessment of farm data reveals that dry periods of less than 35 days or longer than 70 days are costly in terms of lifetime yield, establishing optimum lengths for the dry period depending on lactation number

Too short	Too long
Associated with reduced yield in next lactation and increased risk of new infection	May result in over-condition, metabolic disease, increased risk of new infection and is associated with a reduction in lifetime yield



2. Decision-making at drying-off

Dry cow treatments are a vital element of mastitis control and must be selected appropriately in order to get the best results. Depending on the herd bulk milk somatic cell count and the individual cow infection status, the most suitable regime for dry cow therapy will vary between herds.

- Develop, implement and regularly review a dry cow strategy for your cows with your vet, who **must** advise and prescribe the most suitable products
- All cows in the herd **must** be treated with an internal teat sealant
- Irrespective of dry cow therapy choice, aseptic technique is **vital**

Options for dry cow therapy

Use appropriate options for treatment and prevention of infections for all cows in the herd. Different dry cow therapy products may be used for different cows (ie a 'selective' approach), in consultation with your vet.

- It is recommended that Highest Priority Critically Important Antibiotics are not routinely used at drying-off
- The use of injectable antibiotic at drying-off is **not** recommended and there is no evidence this method is effective

Teat sealants

- Scientific evidence worldwide, including the UK, shows that internal teat sealants work and significantly reduce the risk of new infection while the cow is dry

- Use internal teat sealants for **all** cows at drying-off
 - in combination with antibiotic for infected cows
 - alone in uninfected cows

- If you cannot use internal teat sealants, you could opt for external teat sealants, which are regularly reapplied during the dry period, although their effectiveness is less well-proven

Antibiotics

- If using antibiotic dry cow therapy for high-SCC, infected cows, the antibiotic must have an appropriate spectrum of activity against the most important bacterial causes that lead to increased SCC in the herd
- Giving antibiotic to low-SCC, uninfected cows can be detrimental and increase the risk of these cows developing mastitis in the next lactation

Antimicrobial resistance: using antibiotics responsibly

Responsible use means turning to antibiotics as little as possible but as much as necessary. Current concerns over antibiotic resistance means it is necessary to review blanket treatment of antibiotic dry cow therapy. Discuss antibiotic use and your dry cow treatment strategy with your vet. More information at: www.ruma.org.uk/cattle

RESPONSIBLE USE OF MEDICINES IN AGRICULTURE ALLIANCE
ruma

Vaccination

- Low-SCC herds **could** consider mastitis vaccination to reduce severe clinical mastitis

What are Critically Important Antibiotics (CIA)?

Certain antibiotics are classed by the World Health Organisation as critically important for treating difficult infections in human medicine. High Priority Critically Important Antibiotics include third- and fourth-generation cephalosporins, fluoroquinolones and colistin. To prevent antimicrobial resistance, avoid using Critically Important Antibiotics unless there is no other product effective against the condition being treated.

Determining individual cow infection status for selective dry cow therapy

- Use a drying-off list (available from many on-farm software packages and milk recording organisations) and look at cows that are due to go dry (see example overleaf)
- Use individual cow somatic cell counts from three consecutive milk recordings alongside clinical mastitis history for the last three months to determine individual cow infection status
- Classify each cow as uninfected, recovered or chronically infected

2. Decision-making at drying-off

Use the information in the chart below to choose an appropriate dry cow therapy strategy for individual cows. Consult your vet for advice.

					Cell count history ('000)				
Cow ID	PD	Dry	Due	Clinical mastitis date	April	May	June	Status	Suggested treatment
1	+	06 Jul	04 Sep	-	151	261	286	Chronically infected	Antibiotic and sealant
2	+	08 Jul	06 Sep	17 Jan	139	108	147	Recovered	Sealant alone
3	+	18 Jul	16 Sep	-	1,609	138	116	Unsure	Antibiotic and sealant
4	+	23 Jul	21 Sep	-	34	42	49	Uninfected	Sealant alone
5	+	25 Jul	23 Sep	-	123	73	90	Uninfected	Sealant alone

Chronically infected: Cows with more than one SCC > 200,000 cells/ml for the last three consecutive monthly recordings.

Recovered: Cows that previously had high cell count or a clinical case of mastitis, but SCC < 200,000 cells/ml for the last three consecutive monthly recordings and have not had clinical mastitis in the last three months.

Uninfected: Cows SCC < 200,000 cells/ml and no clinical mastitis during last three months before dry-off.

Note: This process highlights the importance of using individual SCC data to help inform likely infection status of individual cows and the best treatment for them at dry-off.

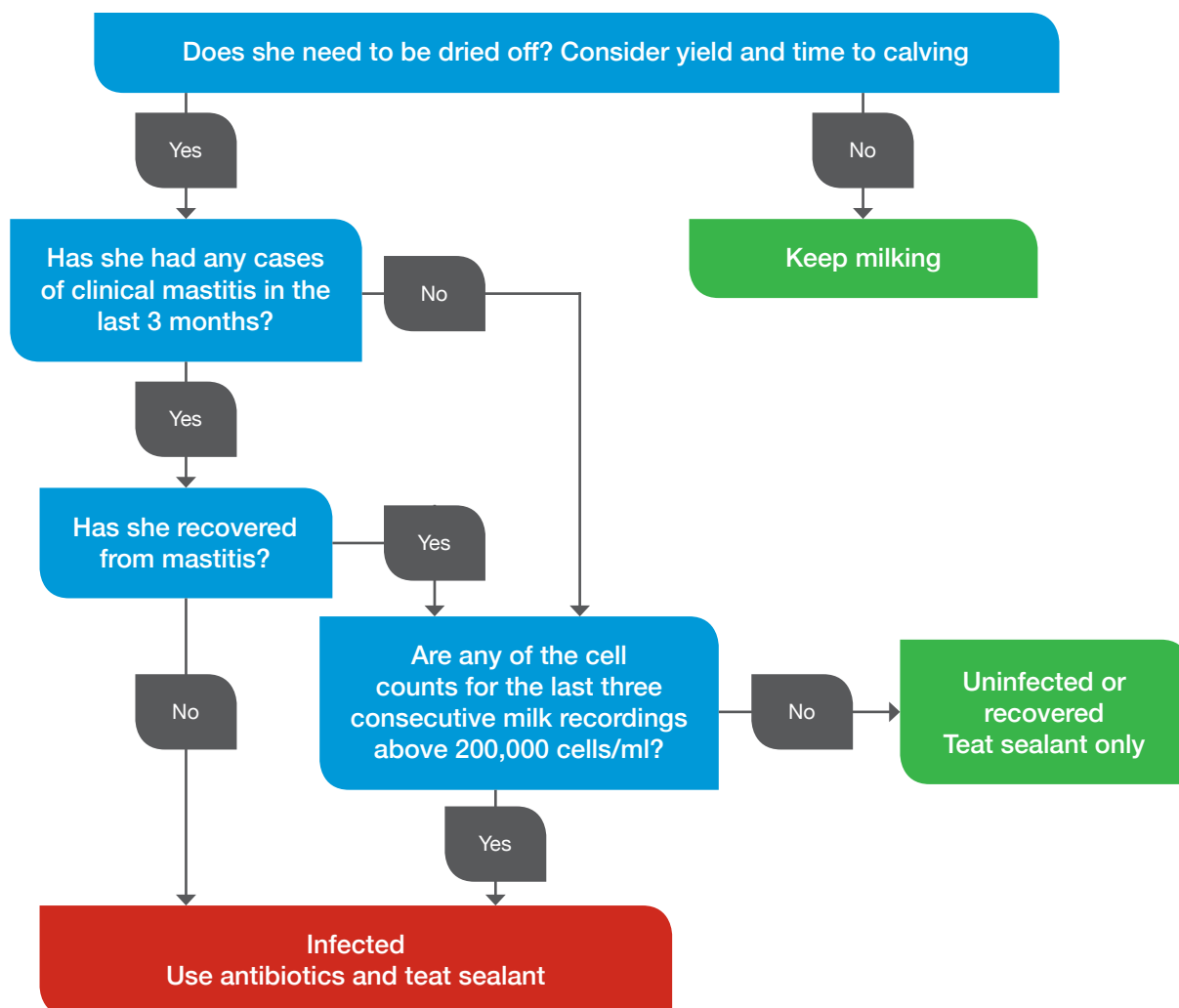


Figure 2. Determining individual cow infection status for selective dry cow therapy method

3. Drying-off protocol

Drying off requires a lot of care, time and excellent hygiene. To achieve a successful drying off procedure, do not carry it out during milking. Instead, shed cows to be dried off after their last milking so they can easily be brought back into the parlour later after it is cleaned down. Do not trim tails and hooves at the same time as drying off because of the serious risk of teats becoming contaminated.

Irrespective of dry cow therapy choice, it is important to be as sterile as possible when administering dry cow therapy to **avoid introducing infection** into the teat. Poor infusion technique can cause damage to the teat canal and increases the risk of mastitis and can result in cows dying. A recommended protocol is outlined overleaf.



Watch online:

For more information (including videos), please visit: dairy.ahdb.org.uk/dry-cow-management

Remember:

To discuss the training needs of your team with your vet.

3. Drying-off protocol



1

Identify cows to be dried off, for example with stockmarker spray on her leg.



2

Wash arms and hands clean. Wear a fresh pair of disposable gloves and keep clean and dry. Replace gloves frequently, preferably between cows.



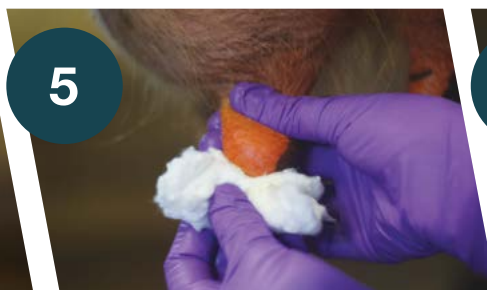
3

Pre-dip each teat using a fast acting disinfectant, leave on for at least 30 seconds.



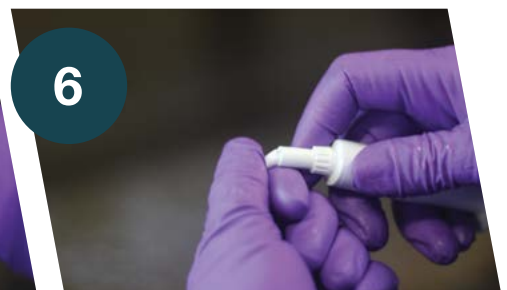
4

Wipe teats to be dried off with an individual paper towel per teat, paying particular attention to the teat end. Start with the teats furthest away, moving to the closest teat.



5

Keeping hold of the teat in one hand, wipe the teat and teat end with cotton wool soaked in surgical spirit. Focus on getting the teat end spotless. If there is dirt on the cotton wool after you have cleaned the teat end, repeat with a fresh piece of cotton wool. **Do not** let go of the teat.



6

Ideally an assistant should help prepare the tubes and hand them to you. **If using Internal teat sealant only proceed to step 9.**

ANTIBIOTIC



7

Using a partial insertion technique, infuse the whole antibiotic tube into the teat. **Only insert the tube end** and maintain a gentle pressure to stop the product leaking around the nozzle. **Do not let go of the teat.**



8

Without letting go, **massage** the antibiotic up the teat canal. Slide your non-tube hand down the teat after infusing and hold the teat end without touching the teat orifice to allow you to **massage** the contents up towards the udder with your tubing hand.

3. Drying-off protocol

TEAT SEALANT

9



When using teat sealant, use the crook of your first finger and thumb to **pinch the base of the teat** where it joins the udder. The teat will bend towards you. Hold the pinch until the product has been infused into that teat.

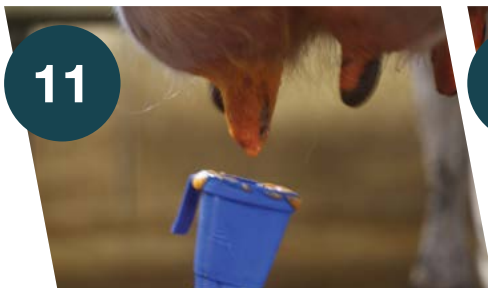
10



Gently infuse the teat sealant until pressure builds up in the teat. Remove the teat sealant tube before letting go of the pinch to avoid sealant being forced up into the udder. **Do not massage after infusion.**

WHEN INFUSING TEAT SEALANT, CLEANLINESS OF THE TEAT END IS ABSOLUTELY CRITICAL

11



After each teat has the appropriate product infused it should have **post-milking teat dip or spray** applied.

12



Check that the cow is **permanently identified** as treated. This reduces the chances of milking a dry cow with antibiotic and causing antibiotic failure.

13



Allow the cow to **stand** in a clean yard for at least **30 minutes** before moving to dry cow accommodation or pasture.

14



In pasture-based systems, avoid recently dried-off cows walking long distances immediately after drying-off.

15



Check udders **daily** for signs of mastitis.

Acknowledgements

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Photos:

Andrew Biggs BVSc MRCVS

Vale Vet Group



3. Drying-off protocol

During the dry period, check udder daily

Observe cows daily during the dry period

- Look out for swollen quarters
- If quarters look swollen, move to appropriate handling facilities and check udders manually

Check swollen quarters manually

- Check for swelling, heat, hardness, redness and pain – compare between all quarters
- It is important to avoid handling or stripping unaffected quarters so that the teat seal or plug remains intact
- If suspicious, consult with vet before treating as a clinical case
- A full course of treatment should be used, and each treatment given at the recommended time intervals, as per the label
- Remember to record full details of the clinical case and treatment

Removing teat sealant

- The dry period ends with the calving down of the cow and the start of the next lactation
- Teat sealant **must** be **fully** stripped out prior to attaching the cluster at the first milking of the lactation
- Pinch the base of the teat where it joins the udder, with the other hand strip each teat with one long slow action
- Generally the teat sealant can be removed in one long 'string', if not strip 10–12 times whilst pinching the base of the teat.
- Teat sealant must not enter the bulk milk tank
- This is to prevent blackspot in cheese and accumulation of sealant in filters of the milking machine

Some milk buyers require farmers to complete training on the use of teat sealant which is provided by the farm vet in conjunction with the product manufacturer guidelines. A certificate of completion lasts for three years.



Dairy
UK



Speak to your vet

Speak to your vet about MilkSure training on how to safeguard residue free milk
www.milksure.co.uk

Withdrawal periods for dry cow antibiotics

- There is no withdrawal time for internal teat sealant but there is for intramammary antibiotics
- Due to the long acting nature of the antibiotic dry cow tubes, there is a prolonged milk withdrawal period
- Care must be taken to observe withdrawal times, especially if cows calve early
- If a cow calves early:
 - Check the dates for their dry cow therapy withdrawal period
 - Instructions **must** be appropriately followed for each antibiotic product
- Failure to adhere to withdrawal periods may lead to an antibiotic residue failure. If there is any doubt milk can be tested using an inhibitory substance test

4. Managing dry cow feeding

Dry cow feeding is an important element of a mastitis control plan because it can influence the cows' immune status, both in the dry period and in the subsequent lactation, and hence the ability to remain free from mastitis infections.

Review dry cow feeding

The primary aim of dry cow feeding is to maintain body condition by ensuring adequate energy intake and to ensure cows start their new lactation in the best possible nutritional status.

Review dry period feeding and ration in consultation with your nutritional adviser and vet.

Dry period timeline

Early (Dry-off to 21 days)	Late or 'transition' cows (21 days to expected calving date)
Feed a bulky low-energy ration of 9–10MJ ME/kg DM	
13–14% crude protein in the dry matter is adequate for dry cows at any stage	
Target DMI of > 12kg DM/cow/day	
Do not overfeed, particularly starch – predisposes to poor transitioning	Ensure ration has long fibre, for example > 3kg of long chop that is at least 3cm in length, in consultation with your nutritional adviser
	Supplement with selenium (3.6mg/kg DM) and vitamin E (1,200IU/cow/day or higher in high-yielding herds)
	Low levels of selenium and vitamin E can affect immune status and increase the risk of mastitis
Analyse forages for minerals to ensure correct mineral balance in ration	
Monitor and maintain BCS at scores 2.5–3 through to calving. Do not allow them to get fat	
Minimise stress and pen/group moves in the run-up to calving as this can reduce DMI	

Table 2. Dry period timeline



4. Managing dry cow feeding

Optimise feeding area design to maximise dry matter intake; in particular, ensure you:

- Clean out feed troughs daily
- Provide cows with at least 0.75m of feed space per cow in transition
- Maintain correct feed barrier or rail position and height – observe cows for hair loss or swelling on the neck as this may indicate that the neck rail is too low
- Provide a smooth/shiny surface in the feed trough as it improves intake



Figures 3 and 4. Representing optimal dry cow feeding space, showing examples of how to maintain high intakes in late dry period. Please note the smooth surface in Figure 3. It is important to regularly appraise your dry cow management

5. Dry cows at pasture

Time at pasture is a considerable risk period for clinical mastitis and increased somatic cell counts for many dairy herds. This is often due to exposure to different disease-causing bacteria as well as variable environmental conditions.

Where dry cows are managed at pasture

- Only keep dry cows in the same lying area (pasture, paddock, field) for a maximum of two weeks, followed by at least four weeks' rest for that area
- Maintain adequate pasture drainage to avoid surface flooding or severe poaching
- Move dry cows to a different field if severe poaching of the land and/or gateways occurs
- Manage poaching around gateways/feeders (eg using bark)
- Maintain housing conditions in the same way as for winter if dry cows have access to housed lying areas during the grazing months

Summer mastitis

Flies can transmit bacteria that are involved in the summer mastitis complex ('August bag'), which is most prevalent during the grazing months.

- Ensure good fly control through frequent reapplication of a pour-on product (monthly depending on product) for all dry cows through the summer period
- Avoid high-risk areas associated with summer mastitis (eg fields near to trees and damp, sheltered areas)
- Isolate dry cows with summer mastitis to stop the spread of infection



5. Dry cows at pasture

Calculating stocking density at pasture

- Never exceed a stocking density of 100 cows/acre/day in a two-week period.

(One acre is 50 by 100 yards and one hectare is 2.5 acres)

- The calculation should always be based on the group with the highest stocking density for the longest time

Calculation:

Cow acre days = (number of dry cows in group per number of acres grazed by that group) x days

- Useful questions to ask yourself are:
 - What is the largest field grazed by dry cows and how long did the largest group of dry cows spend there?
 - What is the smallest field grazed by dry cows and how long did the largest group of dry cows spend there?

Case study

A spring-calving herd reports an increased bulk milk somatic cell count in May and June.

Analysis of the cell count data highlights that 30% of cows are > 200,000 cells/ml at the first milk recording after calving (dry period new infections).

Using the Mastitis Control Plan, the farmer explains that the outwintered dry group of 120 cows is moved daily around areas of the paddock that are pre-arranged with bales, having access to 0.2ha each day.

This works out to be a stocking rate of 240 cow acre days (120 cows in 0.5 acre for 1 day) – a 'target' stocking density at pasture is 100 cow acre days, so ideally we would try and double the size of the bale area, at least in the early part of the dry period when susceptibility to new infection is so high.

Calculation:

1 hectare = 2.5 acres
therefore 0.2 hectare = 0.5 acres. Stocking rate is cows/acre/day (120/0.5/1=240)



Figure 5. Represents a good way to manage dry cows at pasture



Figure 6. Represents dry cows at pasture



Figure 7. Represents a gateway into a field and the immediate area overlaid with bark to limit or prevent poaching on the land

6. Dry cow housing

The environment of dry cows **must** be managed at least as well as for milking cows.

Dry cow accommodation must be maintained so as to minimise the risk of injury and bacterial colonisation to the teats and udder.

Ventilation of dry cow housing

- Ventilation **must** be good to:
 - Create a dry atmosphere to reduce bacterial numbers on bedding
 - Control environmental mastitis (decreases bacterial survival time)
 - Avoid draughts in all dry cow housing

Note:

Detailed information is available in the AHDB Dairy Housing best practice guide dairy.ahdb.org.uk/dairy-housing-best-practice-guide

The following items **must** be assessed:

- **Outlet provision** – For adult cows, the outlet **should** be at least 0.15m²/cow
- **Inlet allowance** – The total inlet area **must** at least 2 x outlet area, divided down each side of the building
- **Forced or mechanical ventilation could** be used to improve the natural ventilation in dry cow housing



Figure 8. Shows lifting side inlet ventilation

Loafing, feeding scraping and slurry removal

- Loafing areas:
 - Include non-lying, non-bedded, non-passageway and non-feeding
 - Allow cows to spread out, reducing faecal contamination and bullying
 - Must be at least **2m²/cow**
- Feeding area should be at least **0.75m** of feed space per cow
- **Twice** daily, scrape alleyways, loafing and feeding areas
- Automatic scrapers **must** run often enough to keep alleyways clean and slurry must not overflow the sides of the scrapers

Cubicles

Cubicles for dry cow groups at **any** stage **should** conform to the same standard as for the milking cows.

There **must** be:

- As many cubicles as dry cows in the group
- Appropriately sized cubicles for dry cows



Figure 9. Example of cow housing with sand cubicles

Inorganic bedding material (eg sand) in cubicles

- Is better for environmental mastitis control (poorer bacterial survival)
- Should be used wherever possible
- Clean material should be applied to the cubicles **every other day**

Organic bedding material use (for example straw or sawdust) in cubicles

- Clean material should be applied to the cubicles **every day**

Inorganic/organic bedding use in cubicles

- Twice daily, dung, soiling and wet bedding must be removed from cubicles
- Sufficient bedding should maintain a dry environment and retain cow comfort
- Drying agents (eg lime) should be used to improve dryness

6. Dry cow housing

Yards used for dry cows

Dry cows require:

- A **bedded** lying area of 1.25m²/1,000 litres of milk/cow (herd annual milk yield)

Dry cow **straw** yards:

- Should have excellent drainage, +/- sand on top of hardcore or concrete
- Should aim to use **250kg** to bed each dry cow **each month** during the housing period
- Should use unchopped straw
- Should have new, clean, dry straw added **once** daily and the straw bedding should be spread evenly
- Should be completely cleaned out **every month**

Dry cow **sand** yards:

- Can be very labour-intensive, but lower the risk of new mastitis cases
- Should only have washed sand or sea sand applied
- Should be cleared of dung from lying areas **twice** daily
- Should be spread with fresh, clean sand in the lying areas **once** daily
- Should be completely cleaned out every **six months** (or earlier if necessary)



7. Calving management

Good environmental management for calving cows is essential to prevent new udder infections. In particular, extra attention should be paid to calving cows in the 24 hours before and after calving.

Minimise stress and bacterial exposure

- Provide the cow with a clean, comfortable and dry environment in which to proceed through calving
- Ensure that stress is minimised and the udder and teats are exposed to low levels of disease-causing bacteria when the cow is lying during calving
- Ensure all flooring areas are non-slip, with good grip
- Regularly remove dung from calving yards and pens to avoid build-up of cow and calf disease-causing bacteria, to keep calving cows clean and minimise the risk of mastitis
- Scrape alleyways, loafing and feeding areas used by calving cows **twice** daily
- Provide at least 2m²/cow loafing area for calving cows
- Keep calving areas well ventilated **at all times** – see Factsheet 6 - Dry cow housing

Calving in individual calving pens

- Ideally, **all** cows should calve in individual calving pens
- Clean pens between calvings

- Provide at least **15m² lying space/cow** in both pens and yards

Calving at pasture

- See Factsheet 5 - Dry cows at pasture

Calving in straw yards

Managing calving cows in yard systems bedded with straw remains popular. However, it can prove difficult because the risk of new intramammary infection is very high at calving and space is often limited, particularly when shared with cows in the final 2–3 weeks (the transition period).

- Adequate drainage will avoid pooling of liquid and keep surface of bedding dry
- The base of a straw yard should have excellent drainage, possibly with sand on top of hardcore or concrete
- 250kg of unchopped straw should be used to bed each calving cow **each month**
- New, clean, straw should be added daily and straw bedding should be spread evenly
- Yards should be completely cleaned out **every month**

Calving in sand yards

Managing calving cows in sand yards can be very labour-intensive, but in general the risks of new intramammary infections are lower in calving cows kept on sand yards and bedding costs are reduced. However, aim to get cows onto a straw bed during calving.

- Use washed sand or sea sand
- Remove dung from lying areas **twice** a day
- Spread fresh, clean sand in the lying areas at least **once** daily
- Completely clean out the yard at least every **six months** (or earlier if necessary)



7. Calving management

The immediate post-calving period (less than 24 hours after calving)

Adequate provision for feeding space is essential to avoid competition between cows and build-up of dung in the passageways as cows queue to feed. It is also important to maximise calving cow dry matter intake and therefore energy input.

Cows in the calving areas must:

- Have access at all times to good-quality feed that meets their nutritional requirements, whether in pens or yards
- Receive the lactating cow diet **immediately** from the onset of calving

- Have at least 0.6m feed space/cow
- Have access to potable water at all times
- Be observed for signs of mastitis or other diseases in the first 24 hours after calving
- Have each quarter stripped within four hours of calving to check for mastitis
- Be milked for the first time within 24 hours of calving

There are various aspects to management of the cow and calf that are important to promote health and that have been associated with mastitis.

- The calf should be left for a **maximum** of 24 hours with the dam after calving
 - You **must** know the disease status of your cows (particularly Johne's disease)
 - Depending on the disease status of the cow, you may need to implement earlier removal of the calf
- Calves **must** not have the opportunity to suckle other cows as well as their dam



Figure 10. Example of a poached outdoor calving paddock. Calving cows should not be kept for more than two weeks on the same pasture, paddock or field. Allow four weeks before returning calving cows to any one grazing, loafing or rest area after it has been used by cattle

8. Monitoring calving period outcomes

It is vital to monitor the outcome of dry period management in terms of:

- New intramammary infections (for cows dried off uninfected and for heifers calving into the herd)
- Apparent failures to cure (for cows dried off infected)
- The rate at which clinical mastitis and other diseases around calving are reported

From a mastitis perspective, measures of a successful dry period are:

- The percentage of cows calving down uninfected
- The percentage of cows with clinical events

Calculate the percentage of cows calving down uninfected

- The California Milk Test (CMT), also known as the California Mastitis Test, can be used to check all quarters of each cow for mastitis after calving

- No more than 10% of cows should be CMT-positive at day four after calving
- It is recommended to use CMT on day four after calving

- See further information on CMT overleaf

Collate clinical events

- Less than 5% of cows should develop milk fever in any 12-month period
- Less than 5% of cows should be diagnosed with a Left Displaced Abomasum (LDA) in the first two weeks of lactation during the last 12 months
- No more than one cow in every 12 should have a clinical mastitis case in the first 30 days after calving

Dry Period Clinical Mastitis Monitor (Enter every cow's details as she calves)

	Cow ID	Calving date	First 30 day mastitis?		Cow ID	Calving date	First 30 day mastitis?
1	1	06 Sep	X	13			
2	2	08 Sep	✓	14			
3	3	14 Sep	X	15			
4	4	21 Sep	X	16			
5				17			
6				18			
7				19			
8				20			
9				21			
10				22			
11				23			
12				24			

Enter cow ID, calving date and tick the final column if mastitis occurs in the first month of lactation

8. Monitoring calving period outcomes

Use SCC data from the first milk recording (5–30 days in milk) to calculate:

Dry period new infection rate:

- Percentage of cows moving from uninfected status at dry-off to infected (SCC > 200,000 cells/ml) should be < 10%
- Percentage of maiden heifers calving in with high SCC should be < 10%

Dry period cure rate:

- Percentage of cows moving from infected status at dry-off (SCC > 200,000 cells/ml) to uninfected status (SCC < 200,000 cells/ml) should be > 85%

Using electronic records

If you use electronic records for documenting clinical mastitis, your vet will be able to monitor the rate at which cows get mastitis in the first 30 days of lactation. This is therefore another tool to monitor how successful the dry period has been.



8. Monitoring calving period outcomes

California milk test

What is a California Milk Test (CMT)?

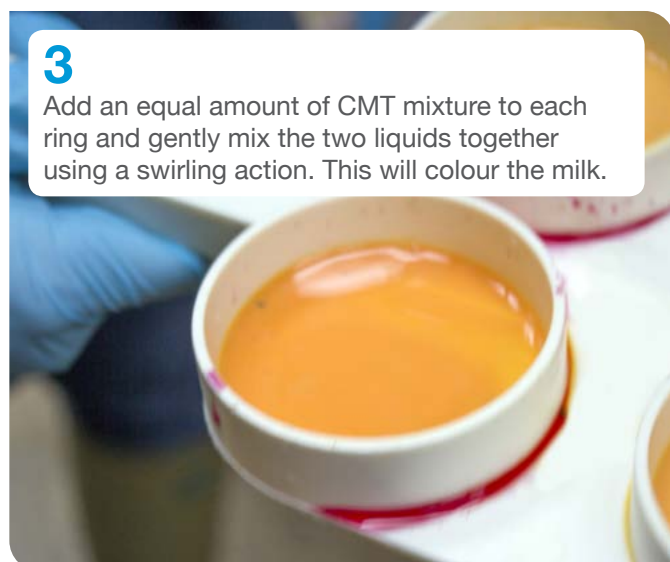
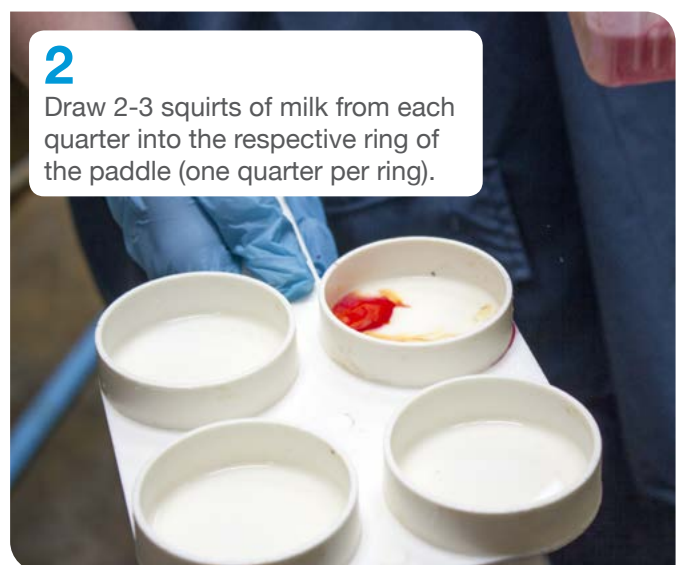
The basis of a CMT is to give an indication of which quarter has a raised cell count by testing each quarter individually.

The test is based on the reaction between a reagent and milk to give a positive test. If a quarter is infected, the CMT mixture will appear thickened and gel-like.

Equipment

- CMT paddle
- Gloves
- Reagent
- Recording sheet

How to do the California Milk Test (CMT)



Remember:

Should any of the rings appear thickened and gel-like this indicates a positive test.

AHDB Dairy has produced a short film to show how to perform a CMT test along with the results that might be seen.



Watch online:

www.youtube.com/watch?v=O41cqEvmrRw

Note:

Further information on the AHDB Dairy Mastitis Control Plan can be found on the AHDB Dairy website: www.dairy.ahdb.org.uk/mastitis

8. Monitoring calving period outcomes

Reaction to the CMT can be graded 0–3 other than just positive and negative, and with an experienced user may give an indication of the SCC (this is by no means an accurate determinant).

	Positive / negative	Description	Likely SCC range
0	Negative	Mixture of milk and test fluid remains unchanged when swirled	< 200,000 cells/ml
1	Weakly positive	Mixture of milk and test fluid becomes slightly mucoid when swirled	< 200,000 cells/ml
2	Positive	Mixture is mucoid but can still tip out a small volume of liquid	> 200,000 cells/ml
3	Strong positive	Mixture is mucoid and jelly-like, with no excess fluid to tip out	> 400,000 cells/ml

Table 3. Describes grading 0-3 reaction to CMT



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