

# Management of Dry Cows Information Leaflet



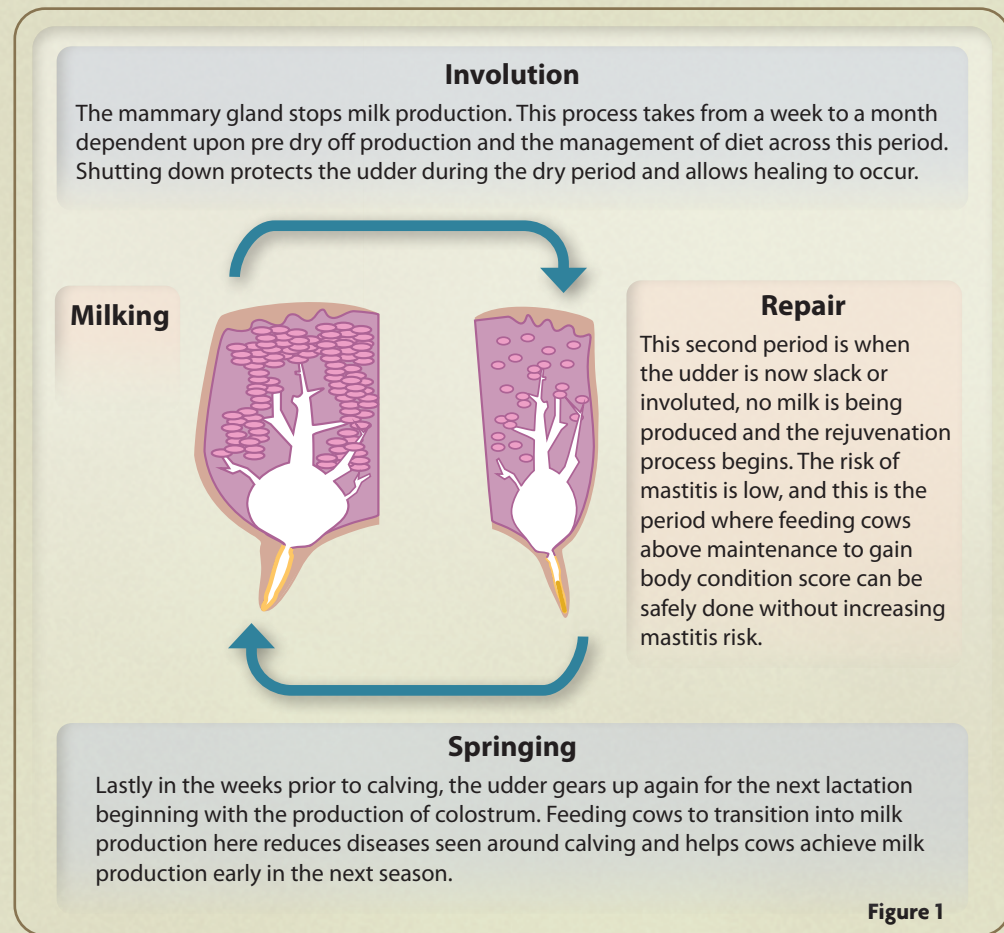
# Why is the dry period so special?

The dry period of cows, between finishing one lactation and calving to begin the next, is a critical period for future udder health and production.

This is because:

- ▶ The mammary gland rejuvenates and prepares the gland for the next year.
- ▶ Subclinical infections of the udder are more reliably self-cured or treated over a longer period than during lactation.
- ▶ Cows' body condition scores can be improved in preparation for the next lactation.

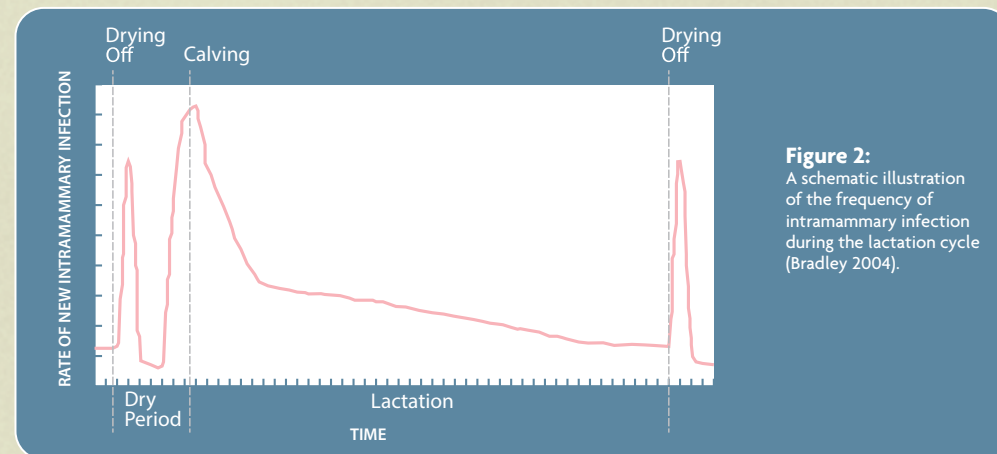
There are **3 distinct stages** during the dry period that a cow's mammary gland moves through: involution, repair and finally making colostrum.



# The dry period and risk!

The times of a dry period where an udder is not involuted (the days and weeks following dry off and prior to the following calving) are high risk periods for an udder getting a new intramammary infection (IMI) that will present as mastitis the following lactation.

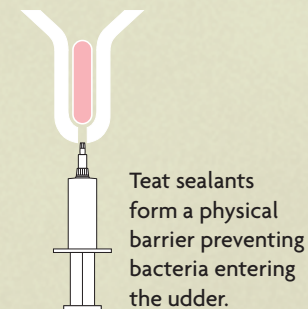
We manage these high risk periods through the use of internal teat sealants and management of the environmental challenge and transition nutrition out of one lactation and into the next.



## Internal teat sealants

- ▶ Internal teat sealants, such as SureSeal®, reduce the risk of an udder gaining a new IMI through mimicking the natural defences, a keratin plug. This is the barrier, at the teat end, to the entry of bacteria across the dry period.
- ▶ This is particularly important in high challenge environments when cows have a high stocking density or it is muddy.
- ▶ Internal teat sealants reduce the risk of clinical mastitis in the following lactation as a continuation of less new IMIs occurring over the dry period.

**SureSeal®**



## Using nutrition to manage the transition to a dry cow

- ▶ Overfeeding beyond maintenance requirements during the involution process increases the risk of continued milk production and milk leaking, a known risk for mastitis.
- ▶ Nutrition at maintenance levels assists the involution process.



# What is udder involution?

Udder involution is the process by which a cow's production of milk is stopped. During involution antibacterial factors are produced to help resolve subclinical mastitis and the udder recovers and rejuvenates ready for the next lactation. Visually the udder swells (Fig 3) in the days following drying off before becoming slack, where it is noticeably smaller and less swollen (Fig 4).

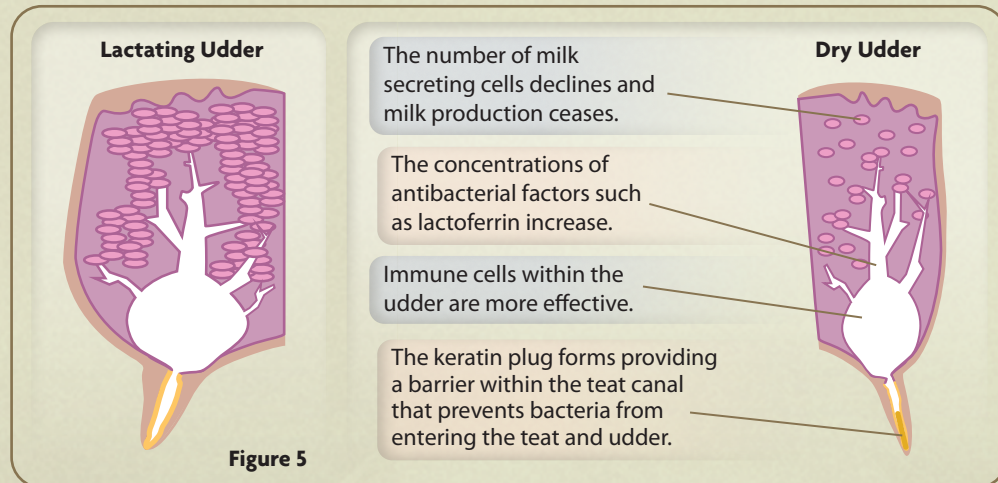


Figure 3



Figure 4

## During involution:



## So why is there such risk at drying off?

At drying off lactation continues until the involution process is completed but defence mechanisms are stripped away. Daily or twice daily milking that flushes bacteria out of the udder and teat is halted resulting in more opportunity for new IMI. Teat spraying that reduces bacteria on the outside of teats is also stopped resulting in increased teat end challenge.

These reasons highlight the time between dry off and involution as a critical one; it takes time for the benefits of involution to come through and managing a successful involution helps ensure good udder health on the other side of the dry period.

# How can I improve involution outcomes?

## 1. Production at dry off

- ▶ Follow industry guidelines for production of milk recommendations at dry off (*Dairy Australia 2018, pp. 71-73*).
- ▶ Using the bulk milk tank as an average production has many cows milking above recommendations (an average production of 12L/cow at final milking still has many cows at risk of milk leakage after their last milking).
- ▶ If cows are still milking well discuss with your veterinarian how to reduce production safely before drying off. This will involve drying off cows in batches as they become ready and carefully managing feed intake of cows that are milking well.

## 2. Select the right dry cow products

- ▶ Complete annual refresher training on administration of intramammary dry cow products, read industry guidelines (*Dairy Australia 2018, pp. 74-76*) or watch a demonstration video (<https://vimeo.com/245265177>).
- ▶ Immediately after last milking administer the dry cow products safely as recommended by your veterinarian.



## 3. Manage the cows nutrition over the transition

- ▶ Pre drying-off provide a reduced energy diet that signals the cow to stop making milk.
- ▶ Feed to maintenance levels after drying off until involution occurs.
- ▶ Follow industry guidelines for production of milk recommendations at dry off (*Dairy Australia 2018, pp. 71-73*).
- ▶ Involution is promoted through a combination of reduced energy intake, halting of the milking process and changed routines.

## 4. Changing routines

- ▶ Normal milking routines are a signal to cows for lactation to continue. After dry off ensure cows are located away from the dairy until involution is complete.

## 5. Check regularly

- ▶ Follow industry guidelines for monitoring cows after dry off (*Dairy Australia 2018, pp. 77-78*).
- ▶ Check your cows initially by walking through the mob every day.
- ▶ Cows with mastitis may be slow to move, have some swelling in the udder or walk like lame cows. Draft any suspect cows and examine for mastitis.



Follow industry guidelines (*Dairy Australia 2018, pp. 71-73*) after dry off by placing cows in a clean, dry paddock. During the dry period, risk of a new IMI must be managed until involution has been successful. Risk of a new IMI must also be managed in the springing period before the next lactation. It is important to keep the environmental challenge under control during these periods of high risk.

Drainage, shelter and keeping moderate stocking rates are key. Cows need to be able to lie down in a place that is not covered in mud or faeces.

**Figure 6:** Adapted from *Countdown 2020 Farm Guidelines for Mastitis Control* (*Dairy Australia 2018, pp. 17-18*).

### Important guidelines include:

- Pasture or pads for calving must have minimal manure contamination.
- The calving area should be sheltered and well drained. Avoid pugging and mud.
- If possible heifers should be calved separately from the main herd.



## 1. 7-14 days before drying off

- ▶ Monitor production levels at a cow level. Use a test bucket to check higher producing cows.
- ▶ Manage reductions in high producing cows through nutrition.
- ▶ Use weather forecast to avoid drying off when conditions are wet and muddy.

## 2. At last milking

- ▶ Follow best practice administration technique using products as directed by your veterinarian immediately after the last milking.
- ▶ Provide clean and dry paddocks for involution.
- ▶ Begin maintenance diet to assist involution.

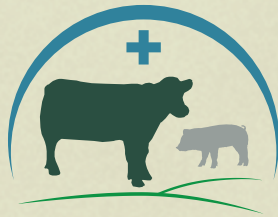
## 3. Check cows daily for 7 days after last milking

- ▶ Over this period cows should become involuted (slack udders). Check for mastitis and for failure of involution.
- ▶ If you find many cows with poor involution then that is a signal to review intakes and keep checking for mastitis as the risk is not over yet.
- ▶ Continue maintenance feeding for cows still not involuted.
- ▶ Begin feeding cows that have properly involuted to improve body condition scores. Observe these cows weekly for swollen udders and signs of illness.

## 4. Springing cows 3 weeks before calving

- ▶ Begin transition diet to improve energy intake and supply important minerals.
- ▶ Minimise environmental challenge as the risk of new IMI increases again.





# GROW WELL

## Grow Well

Grow Well aims to develop tools for veterinarians and their clients which may be used in practical situations.

Your veterinarian is the trusted professional with local knowledge to best meet your farm's herd health needs. Combining science with practical considerations, your veterinarian can tailor a preventative health plan to fit your situation, aiding you in optimising the management of your herd from lactating to dry cows. We trust that the information contained within this leaflet will help you work with your vet to improve mastitis control over the dry period on your farm.

## Review

### Does your management plan for dry cows consider:

- ▶ Refresher training on administration of dry cow product
- ▶ Ensure reaching target milk production levels prior to dry off
- ▶ Maintaining clean dry off and calving environments
- ▶ Ensuring involution by managing feed availability after drying off

## References:

Bradley AJ, Green MJ, 2004, 'The importance of the nonlactating period in the epidemiology of intramammary infection and strategies for prevention.' Vet Clin North Am Food Anim Pract. vol 20 pp547–568.

Dairy Australia 2018, Countdown 2020 Farm Guidelines for Mastitis Control, Dairy Australia, Melbourne.

Available at <<https://cdn-prod.dairyaustralia.com.au/-/media/project/dairy-australia-sites/national-home/additional-files/countdown-farm-guidelines-for-mastitis-control-2018.pdf?rev=b437f975da8a44dfbab05b7344602417>>

## View the full Countdown Guidelines



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