

TOP 10 TIPS FOR A STRESS-FREE AND SUCCESSFUL DRY PERIOD



Practical advice for a **successful dry period**



Key advice to maintain healthy cows for a **profitable next lactation**





INTRODUCTION



Dr. Finola McCoy, Animal Health Ireland

The dry period is an important stage for both the cow and the farmer. For the cow, it allows the udder time to rest and repair, is an opportunity to treat udder infections, and gives time to achieve the right body condition for calving. For the farmer, it is a chance to review herd health, recharge your own batteries and prepare for the next season.

Key messages

- ✓ Almost all cases of clinical mastitis in early lactation can be traced back to the cow being infected at drying off and/or during the dry period.
- ✓ The infection risk is highest in the first two weeks after drying off and just before/at calving.
- ✓ Preventing new dry period infections is one of the most important factors for success in the next lactation.

Here, Animal Health Ireland (AHI) is providing all the necessary tools to make sure you, your farm business and your cows get the dry period they deserve.

Throughout this practical and handy booklet, we provide top tips on how to make this drying off period a successful one while helping you to follow all the current legislative rules.

If you get the dry period right, you're already well on the way to a profitable and healthy next lactation.

What has changed in relation to dry cow therapy?

In 2022, the EU introduced new legislation on the prescribing and use of antibiotics in animals. The aim is to tackle antimicrobial resistance (AMR), which is a serious and real threat to the health and wellbeing of people and animals. The legislation recognises the need to use antibiotics in farm animals, but it also understands the importance of the same antibiotics in human health.

AMR means that the antimicrobial, or in particular the antibiotic, no longer works to treat disease either in people or animals. Bacteria have developed resistance to antibiotics in order to survive; this resistance develops due to continued use of antibiotics, with the result that antibiotics are becoming less effective.

The legislation is requiring vets and farmers to think differently when it comes to dry cow therapy. Any dry cow therapy must be selective and it is important to understand what this means. Selective dry cow therapy means selecting each cow individually and deciding whether or not she needs an antibiotic dry cow tube. Selective dry cow therapy should be done in consultation with your vet.

Addressing AMR means using less antibiotics but not at the expense of cow health and welfare. It's important to note that antibiotics at drying off are NOT PROHIBITED OR BANNED, but conditions have been attached to their use. They must be reserved for treating sick animals or those with evidence of infection, not as a routine preventive measure. They cannot be used to compensate for gaps in management, facilities or husbandry. This shift means more emphasis on good herd management, hygiene, and a risk-based, targeted approach to treatment at drying off. These new changes will protect all our health.

How do I know which cows need antibiotic at drying off?

Each herd, and each cow within, must be assessed individually, taking into account farm history, milk and mastitis records, and veterinary advice. The individual cow somatic cell count (SCC) is one of the best ways of identifying the presence or absence of infection in the cow's udder. While there is no single "magic" somatic cell count (SCC) cut-off point that is appropriate for every farm when making drying-off decisions, as a guide, CellCheck suggests that cows with an SCC consistently below 100,000 cells/mL and no history of clinical mastitis, throughout the lactation, may not require antibiotic dry cow treatment and could be dried off with teat sealant alone. For farms in the early stages of adopting a selective drying off treatment plan and starting cautiously, they may consider using a lower SCC level such as 50,000 cells/mL, and increasing this over time.

The SCC threshold for making treatment decisions is influenced by things like the prevalence of infection in the herd, in other words the number of infected cows in your herd, and is something that should be agreed between you and your vet. Research shows that when given correctly, teat sealant is as effective as antibiotic at preventing infections over the dry period, in cows that are uninfected at the time of drying off. When using teat sealant only however, high levels of hygiene are critical, both at drying off and during the dry period, in order to prevent cows getting a new infection.

Remember, preventing new infections is even more important than chasing the "perfect" SCC level for treatment decisions! All cows are at risk of new infection, even if they get antibiotic dry cow treatment, and it is these new infections over the dry period and at calving that can really impact cow welfare and milk quality.

The goal is healthier cows, reduced antibiotic use, while maintaining high quality, sustainable and responsible milk production.

01 Plan ahead

As with any job, the earlier you start planning, the more likely you are to have a successful outcome.

It is recommended to start planning at least one month before drying off. Do not randomly select a batch of cows as the ones first or last out of the parlour. Decide the drying off date for groups of cows based on their calving date, body condition score, yield and lactation number.

Aim for a dry period of at least six weeks, preferably eight. Thinner and/or younger cows may benefit from a longer dry period.

At this point, any cow producing less than 9 litres of milk should be dried off straight away. As cows near the end of lactation, their milk quality changes i.e. levels of lactose decrease and SCC can increase.

Did you know?

If cows don't get a proper dry period, the udder has less time to heal and regenerate, leading to lower milk yields and higher risk of mastitis in the next lactation.

According to Teagasc research, milk recording herds have on average a €39 higher gross margin per cow, while producing approx. 178 litres more milk per cow at a lower SCC.

02 Carry out a milk recording

Identify cows with high SCCs. These cows may need to be dried off earlier or culled if they have repeated high SCC over two lactations despite antibiotic dry cow treatment in between.

Taking sterile milk samples for bacterial culture and antibiotic sensitivity testing will give you and your vet valuable information about the bacteria in the herd. Samples from cases of clinical mastitis, and from high SCC cows during lactation and before drying off all provide important information. Ideally, you should take samples from a mix of young and older cows, and from both recent and chronic cases.

Arrange a meeting with your vet to review records and make a plan, including treatment and culling decisions. For accurate dry-cow treatment decisions, SCC data should not be older than 30 days at drying-off. Good preparation makes the drying off process smooth and reduces risks.

In the absence of a milk recording within a month of drying off, other tests to help identify cows that may require antibiotic treatment, such as a California Mastitis Test (CMT) or milk culture could be considered. However, these need to be carried out on each cow, which presents practical challenges.

Why Milk Record?

ahi Animal Health Ireland

What are the sustainability benefits of milk recording?

- Breeding Strategies**
 - Choose your most profitable cows to breed the best replacements.
 - Improve milk quality.
 - Identify your best producers, from milk yield to milk solids.
- Herd Value**
 - Gives a better estimate of the value of your stock if selling, or for disease compensation.
- Teagasc National Farm Survey**
 - €39 higher gross margin per cow.
 - 178 Litres additional milk yield per cow.
 - 29 Kg more milk solids per cow.
- Carbon Efficiency**
 - Milk recording allows you to increase the herd's productivity, thereby reducing the carbon footprint of every litre of milk.
- Animal Health**
 - Find out which cows are increasing bulk tank SCC or look at patterns across the year to understand increases in SCC and mastitis.
- Animal Welfare**
 - Your animal's individual SCC gives an understanding of mastitis management in the herd and is a good animal health and welfare indicator.
- Reduced Antibiotic Usage**
 - Prescribing dry cow antibiotics requires individual cow information. An animal with high SCC may need a (dry-cow) antibiotic to treat subclinical mastitis. Milk recording gives you and your vet the most accurate information to make the right decisions.

The good, the bad and why it is never too late to start

You can't improve what you don't measure

Animal Health Ireland, 2-5 The...
Phone: 075 9070268 | Email: pd@ahi.ie

CellCheck

Download icon

03 Prepare the housing

Clean winter housing and make sure it is ready even if the cows are going out to grass after being dried off. Make sure you have enough cubicles; to allow for normal cow behaviour, you need to have one extra cubicle for every 10 cows, or 110 cubicles for 100 cows. Good cubicle management helps reduce infection risk.

As we cover later on, keep the cubicles dry and well bedded. Research has shown that SCCs after calving are lower on farms where cubicles are cleaned out twice a day instead of once a day. Ventilation and space are essential for cow comfort and housing hygiene.

Don't forget about your heifers! They also need enough clean and well-maintained space as they prepare for calving, to keep the number of bacteria that their teats are exposed to at a minimum.

The preparation of your animal housing is an often-overlooked part of the drying off process.

04 Clean cows, happy farmer

Good preparation for drying off is vital for udder health. Cows should be brought in clean and dry, with tails already clipped and excess hair removed from the udder and flanks.

Clipping reduces the build-up of dung, dirt and moisture around the udder, making the drying-off process quicker, easier and more hygienic. It also reduces the chances of you getting a slap in the face with a dirty tail! Have any clipping done before the day of drying off, as you don't want loose and/or dirty hair contaminating your clean work area.

A clean udder surface means fewer bacteria are present when tubes are being applied, lowering the risk of infection being introduced. Tidy tails also prevent hair and dirt flicking back onto teats after treatment.

Time spent on cleanliness and clipping pays off in reduced mastitis risk, better sealant performance, and a smoother start to the dry period.

Did you know?

Teat spraying heifers three times per week for the last 2-4 weeks before calving has been shown to reduce the risk of calving down with mastitis. It also helps in training the heifers to get used to the milking parlour.



Did you know?

A single gram of cow dung can contain millions of bacteria, including mastitis-causing pathogens, making hygiene at drying off absolutely critical.

05 Reduce milk yield

One week before drying off, aim to reduce the milk yield of cows still producing more than 12 litres per day. Cut back on concentrates and/or grazing, but never restrict access to water.

Dry off abruptly. Do not skip milkings as this increases infection risk.

The aim is to bring cows to drying off with lower milk flow, reducing leakage and lowering the chance of bacteria entering the udder.

Did you know?

Recent Teagasc research showed that higher milk volumes at drying off increased the risk of new mastitis infections in cows dried off with teat sealant only, compared to those that got antibiotic and teat sealant.

06 Drying off day

After milking, draft out the cows you plan to dry off and bring them back in once the parlour is cleaned and you've had a break. Do not attempt to dry off during milking, as this only adds to your workload and you may end up taking risky shortcuts.

We all like to get work done as quickly as possible but please, take your time – 'measure twice, cut once'. What you do now can make or break the next lactation!

Hygiene and patience are key, and rushing can undo months of good work. Dry off in small batches and clean the parlour between groups. Don't be afraid to postpone if the weather is wet on the day you had planned to dry off- it is very hard to be hygienic when tails and udders are wet.

Make sure you have enough help for drying off days and that everyone knows their role. Consider getting your vet or advisor to give you some refresher training, particularly if you have new staff. This is one of the most important jobs of the year.

Remember

It's not an endurance sport! If you want to dry off the last cow as well as you did the first cow, don't attempt to dry off more than 20 cows at a time.

07

Tubing cows

Organise supplies in advance: gloves, dry cow tubes, teat sealants, sterilising wipes or surgical spirits and cotton wool, a new apron, and cow markers. Have everything within easy reach and make sure every helper knows their task.

1. Mark the cows

- » Clearly mark the cows for treatment before you start, to avoid any mistakes later.

2. Sterilise the teat ends

- » If the teats are muddy, wash and dry them thoroughly first.
- » Sterilise the teat ends by vigorously rubbing the teat opening with a medicated wipe/cotton ball and surgical spirits, for at least ten seconds. Repeat as necessary until no more dirt is seen on the wipe/cotton.
- » To avoid brushing against the sterilised teats with your arms, sterilise the two teats furthest away first (front teats) and then the two closest (rear teats).
- » Administer the tubes in reverse i.e. treat the two teats closest to you first, followed by the two furthest away.
- » Alternatively, one teat can be sterilised and treated at a time, starting with front teats. This may be more practical if more than one tube is being infused into each quarter e.g. antibiotic and teat sealant.
- » Use a standardised order e.g. front left, then clockwise around the udder, in case you get distracted before you have finished a cow.

3. Administer the tubes

- » Remove the cap of the tube and, without touching its tip with your hand, gently insert the nozzle into the teat canal.
- » Massage dry cow antibiotic up into the quarter- DO NOT massage the teat sealant. Teat sealant must remain within the bottom part of the teat to create an effective barrier.
- » If dry cow antibiotic and teat sealant are being used together, repeat the teat sterilisation step in between and make sure the teat sealant goes in last.

4. Apply teat disinfectant to all teats

- » Teat dip is preferred, for better coverage.

5. Record cow ID, date and details of product(s) used



Did you know?

You can still use antibiotic tubes at drying off, but only on cows with evidence of infection and always under veterinary guidance.



Hygienic administration is essential, whether you are using antibiotic dry cow tubes, internal teat sealant or both, to prevent bacteria entering the quarter and causing infection. Remember, good hygiene is what will prevent new infections, and what happens at drying off this year will influence the incidence of new mastitis infections next year.



STEP 1 • PREPARATION IS KEY!

- Clip tails in the days beforehand, so that things are as clean as possible on the day of drying off.
- Plan for the time and labour that treatment takes - more than one person is usually needed to allow you to do the job well.
- Have everything ready in the parlour before you start:
 - » Cow markers.
 - » Disposable gloves.
 - » 70% alcohol (i.e. surgical spirits) and cotton balls, or disinfecting teat wipes.
 - » Tubes of dry cow antibiotic and/or internal teat sealant.
 - » Good source of light, such as a head torch.
 - » Paper towels.
- Don't dry off cows during milking - draft them off and bring them back into a clean parlour, and after you have had a good breakfast!
- Don't be afraid to postpone if the weather is wet on the day you had allowed to dry off - it is very hard to dry off in the rain!

IT'S NOT AN ENDURANCE COMPETITION!

If you want to dry off the last cow as well as you did the first cow, don't try and dry off more than 20 cows per person in one day.



STEP 2 • MARK

- Clearly mark the cows for treatment



08

Aftercare

Keep cows standing in a clean area for 30 minutes after treatment to allow the teat ends to close. The first two weeks after drying off are the highest risk for new infections. Keep cows on clean dry pasture or in clean cubicles and check them daily for signs of infection.

Cubicles should be cleaned and bedded twice daily. Early attention to any problem cow will prevent bigger issues later.

Drying off is a great opportunity to take stock of your next calving season, be that spring or autumn. The aftercare of the cow should take into account how well you are set up for when she calves again.

- » How are your calving facilities?
- » Do you have enough space?
- » Is it a safe and clean environment for a calf?
- » Do you have everything you need?

**Did you know?**

Teagasc studies have found that the application of lime kills *Staphylococcus* and *Streptococcus spp* and reduces numbers of *E. coli*, *Klebsiella pneumoniae*, and other environmental pathogens.

**Did you know?**

After drying off, cows should be fed a balanced, lower-energy, high-fibre diet to maintain body condition without encouraging excessive weight gain.

09

Nutrition during the dry period

Nutrition is vital for both cow and calf. Provide balanced minerals and energy according to body condition. Thin cows may need extra attention to reach the right condition for calving.

Follow the plan from your vet or nutritionist to avoid metabolic problems and to ensure strong calves and a healthy start to lactation.

10 Record and review

Write down all drying off dates and treatments for every cow. Log in to ICBF or use the HerdPlus app to record this information or upload it from your farm software. Record and upload any mastitis cases during the dry period and in the first weeks of lactation.

Ideally, you should start milk recording within one month of calving, even if not all cows are calved yet. This is essential for you and your vet to identify and deal with any early problems, assess how successful your drying off management was and to plan improvements for next year.

It's advisable to take and freeze milk samples from any clinical cases of mastitis. If the number of cases then exceeds your farm target e.g. 5% of cows in the first month of calving, you have an invaluable bank of data in the freezer that can help identify the source of the problem.

Continual improvement, based on records and results, is the best way to keep cows healthy and productive year after year.

It is critical to sit down at the end of each season with your vet to review results. Look at SCCs, mastitis cases, treatments and outcomes. From here, you can agree on changes for the next season to make sure that you are well set for a healthy and profitable lactation.

Remember

The infection status of a cow within the first 60 days in milk will tell you how well the drying off and dry period went. So organise a milk recording within the first month of calving.

In Summary

A successful dry period depends on three things: good planning, strict hygiene and good records. Work closely with your vet to make decisions for each cow. Remember, preventing new infections is even more important than treating existing ones.

Care taken at drying off will reward you with healthier cows, less hassle and better milk production in the next lactation.



Scan the QR code to view our 'Top Tips for a Successful Drying off Period' video playlist.



FREQUENTLY ASKED QUESTIONS



FAQ 01 I hear I can't use antibiotic tubes anymore, is that true?

No, there isn't a complete ban on the use of tubes but use needs to be reduced where possible. As a prescription only medicine (POM), antibiotics may be prescribed for an animal where there is evidence of infection. For a dairy cow being dried off, this could be a clinical examination or using individual cow information such as milk recording results and clinical mastitis records.

FAQ 02 What is selective dry cow treatment?

Antibiotic dry cow treatment is used to treat udder infections that are present at the end of the lactation, and in the past was also used to prevent new infections over the dry period. However, under current legislation vets must now prescribe antibiotics on an individual cow basis, and only for those animals with evidence of infection at drying off. This is known as selective dry cow treatment i.e. selecting the animals that require treatment.

FAQ 03 Will my cows get mastitis if I don't give them dry cow antibiotic?

Cows will get mastitis if bacteria get into the quarter through open teat ends. Almost all cases of clinical mastitis in early lactation can be traced back to cows being infected at drying off and/or during the dry period. Good management and hygiene can prevent this happening, and we should not be using antibiotics to compensate for this.

FAQ 04 What happens if things go wrong next spring?

Research has shown that almost all cases of clinical mastitis in early lactation can be traced back to the cow being infected at drying off and/or during the dry period. However, the clock can't be turned back. If mastitis seems to be a problem in spring time, it is important to understand where the problem has come from to ensure that it doesn't happen again in subsequent years.

Accurate and timely records are essential to assess the success of last year's drying off and dry period. A first milk recording within one month of calving is the first step, as this information allows you to review the dry period. Accurate clinical mastitis records, including dates are also important.

Taking and freezing a milk sample from any case of mastitis, also provides invaluable information. If the number of cases rises or exceeds 5% of cows in the first month of calving, you then have an invaluable bank of samples stored that can be sent to a lab for culture to help to understand the source of the problem.

FAQ 05 Do I need to be milk recording?

Milk recording results provide the necessary information on each cow for your vet to prudently prescribe antibiotic. Trying to identify the cows that need antibiotics without milk recording is like driving in the dark with no lights. If you can, it isn't too late to milk record.

Alternatives include completing a California Mastitis Test (CMT), or sampling each cow for culture, but these also have limitations and should be discussed first with your vet. These options may require more time, cost or effort than milk recording.

FAQ 06 How do I decide which cows need antibiotic?

Individual cow information such as milk recording results and clinical mastitis records are important in identifying evidence of infection. As a guide, CellCheck suggests that cows with an SCC consistently below 100,000 cells/mL, and no history of clinical mastitis, throughout the lactation, may be suitable for getting internal teat sealant only at drying-off. It's important to know that there is no one-size-fits-all. The SCC threshold for making treatment decisions is influenced by things like the prevalence of infection in the herd (number of infected cows) and is something that should be agreed between you and your vet.

We need to focus less on worrying about the perfect SCC level for treatment and focus more on making sure that cows don't get new mastitis infections at drying off, over the dry period and at calving, regardless of what kind of tube they get at drying off.

FAQ 07 What is culture and susceptibility testing?

Culturing is the process of growing the bacteria present in a milk sample. Identifying the bacteria in the herd means that targeted control measures and treatment decisions can be implemented.

Antimicrobial susceptibility testing (AST) is the next step, to see if the bacteria cultured are resistant or sensitive to a group of antibiotics. AST can identify any potential or emerging bacterial resistance issues and help inform treatment decisions. AST is very important for prudent prescribing of antimicrobials, as there are some categories of licensed antimicrobials e.g. Highest Priority Critically Important Antibiotics (HP-CIAs), that should not be prescribed without first having AST results showing no effective alternative.

FAQ 08 I've had a few problem cows with mastitis throughout the year, should I remove them from the herd, or can they recover over the winter?

A cow is considered to have a chronically infected quarter if she has had 2 or more milk recording results >200,000 cells/mL in a lactation. The CellCheck Farm Guidelines for Mastitis Control advise that cows that have had a high SCC in 2 consecutive lactations, despite antibiotic dry cow treatment in between, should be considered for culling. While the dry period is the best chance of cure for many pathogens, some including *Staph. aureus*, may remain even after a dry period. If a cow receives antibiotic dry cow treatment, an early milk recording the following lactation is important, to see if the antibiotic treatment cured her or not.

FAQ 09 Should I teat seal my heifers?

Research has shown that teat sealing heifers 4-6 weeks before calving, if done properly, can reduce the incidence of heifer mastitis in problem herds. The procedure is not without risk to the heifer and the operator. The use of teat sealant in pre-calving heifers is used successfully in some countries. The product is not licensed for use in heifers in Ireland and should only be done in consultation with your vet if a problem with heifer mastitis has been identified. Remember, there are other strategies that are equally effective at preventing new infections and lower risk, such as using teat spray three times a week in the last 2-4 weeks before calving or optimising environmental hygiene. For more information, see Management Note N of the CellCheck Farm Guidelines.



