

TECHNOTE

17

Administer dry cow treatments as recommended

It is easy to introduce bacteria into the teat during administration of antibiotic Dry Cow Treatment (DCT) or Internal Teat Sealant (ITS) if the teat end is not properly disinfected or if bacteria enter the teat canal before it has sealed. Severe mastitis can occur if hygiene is poor.

17.1

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

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

It is essential for farmers to plan the time and labour required to administer dry cow products to their herd. SmartSamm recommends that one person can only handle about 20 cows per hour to do the job well. This allows three minutes per cow in which each of the following needs to be done:

- restrain the cow;
- mark the cow and record treatment details;
- thoroughly disinfect all four quarters;
- treat all four quarters
- thoroughly teat spray each teat; and
- move the cow to an appropriate location.

Advisers should recommend that more than one operator is available, to help restrain and handle cows if required, especially if the cows are not used to their teats being touched, as the job involves some occupational health and safety risks.

When herds change from Part Herd to Whole Herd treatment they need to take into account the additional time required to administer treatments. Tired operators often rush the job and last-minute recruitment of less experienced help can cause problems. Some advisers may offer technical assistance with the administration of treatments in large herds.

To avoid errors and injury at the time of treating with dry cow products:
“When you wish you weren't doing the job – stop.”

Advisers are encouraged to use SmartSamm Healthy Udder to teach clients correct aseptic technique for administering intramammary infusions. A physical demonstration to staff prior to dry off is often worthwhile.

17.2

Make the choice between Whole Herd or Part Herd antibiotic DCT.

Part Herd DCT uses less antibiotic but should only be used in herds where the risk of cow-associated or contagious mastitis is under control.

Use of ITS alone should only be administered to cows that have had no SCC above 150,000 cells/mL and no clinical case during the preceding lactation.

Technote 14 describes options and circumstances in which different dry cow strategies should be used.

17.3

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

Do not use antibiotic DCT on cows which are going to be culled within the next 2-3 months. For cows that have been treated with antibiotic DCT, and then subsequently culled, the meat withholding period of the product must be adhered to.

Technote 17.7 discusses use of antibiotic DCT for blind or dry quarters.

17.4

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

Antibiotic DCT should not be given to cows beyond 24 h after their last milking. Treating beyond this time frame greatly increases the risk of an inhibitory substance grade (Hill and Small 1985).

Antibiotic DCT products are only registered for use immediately after the last milking of a lactation.

17.5

Mark the cows for treatment.

Cows that are dried off early and receive antibiotic DCT whilst the rest of the herd is still in milk represent a significant risk for inhibitory substances being milked into the vat. These cows need to be marked in such a way that ensures all milkers can clearly notice and see these cows if they accidentally end up in the milking herd.

Marking cows before treatment helps reduce the risk of a treated cows accidentally being milked. A marked cow that has accidentally not been treated is less of a risk to the vat than a cow that has been treated with DCT, and not marked.

Use spray paint on the udder, tail and legs, or use tail tape to ensure that all milkers can clearly see cows that have been treated with DCT and/or ITS.

SmartSAMM Healthy Udder and Technote 4.4 give examples of methods for marking cows to be treated.

17.6

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

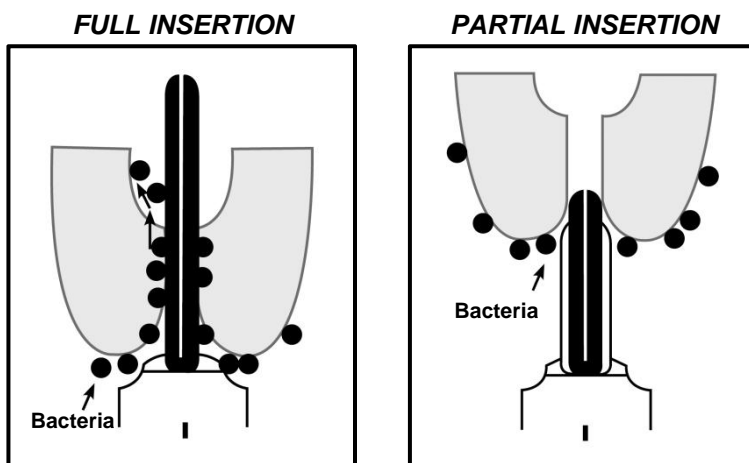
Ideally, antibiotic DCT and ITS should be given using partial insertion of the intramammary tube, whereby no more than the 2-3 mm of the nozzle is inserted into the teat canal.

This technique is considered to cause less damage to the keratin lining of the teat canal, and ensures that some product remains in the teat canal to help provide a temporary seal in the teat canal and provide a barrier against bacteria entering the gland. A single published study compared partial insertion with full insertion of antibiotic DCT across 86 cows and observed a 50% reduction in new infection rate for teats treated with the partial insertion technique (Boddie and Nickerson, 1986).

Some commercial products are available with short nozzles. It is also possible to achieve the technique using longer nozzles, with a bit of practice. For some herds, where cows are not used to having their teats handled, partial insertion may not be an option but for others, this option is well worth trying.

If possible, use short nozzle tubes or the partial insertion technique to administer antibiotic DCT and ITS.

SmartSAMM Healthy Udder provides practical tips on aseptic technique for administering intramammary infusions.



17.7

Treat all quarters of cows to receive antibiotic DCT, except blind or dry quarters.

It is not appropriate to administer antibiotic DCT to individual quarters that were dried off during lactation (i.e. where cows have been milked as '3 titters') or when cows have not been milked regularly beforehand. This is because there is no guarantee of normal dispersion, absorption or removal of antibiotics in quarters in which a significant number of tissue cells have already collapsed at the beginning of the repair and rejuvenation process.

Research Priority - Medium

Low milk volumes at dry off, prior to administration of antibiotic DCT, pose a significant risk of antibiotic residues at calving. It is uncertain how this risk changes for cows producing less than 5 L/day.

Some instances of antibiotic residue in milk following calving, even after expiry of the Minimum Dry Period and the withholding period, have occurred when antibiotic DCT was administered to involuted quarters.

Cows producing at very low volumes at dry off can also pose a risk for antibiotic residues, so shorter acting products, or ITS, should be considered for these animals.

Technote 4.13 discusses quarters that have been dried off.

Technote 3.1 lists common reasons for antibiotic violations associated with antibiotic DCT.

17.8

Thoroughly spray teats with freshly made teat disinfectant after treatment.

Technote 7 discusses teat disinfection.

17.9

Record cow ID, date and product details of all treatments at dry off.

17.10

Put cows in clean areas after treatment.

Do not leave cows in laneways or yards immediately after administering antibiotic DCT or ITS. Ensure cows remain standing for the first 2 hours after giving antibiotic DCT or ITS.

Graze cows in dry, clean paddocks (not heavily soiled with manure, little bare ground, and no exposure to dairy effluent) for up to 14 days after giving dry cow products, or until udder involution has become evident (i.e. udder swelling has subsided).

Technote 16.4 discusses the importance of a clean, dry environment at dry off.

Technotes 18 and 19 describe the checks for clinical mastitis recommended for the first days and weeks of the dry period.

17.11

Transport or move cows within the first 24h of giving DCT or ITS, or delay until 14 days after dry off.

To minimise risk of milk leakage when the teat canal is trying to close and form a tight seal, it is best to avoid walking cows long distances or transporting them during the 2-10 day period after dry off when the udder is at its most swollen.

Any issues associated with poor hygiene at administration of dry cow products will become evident (sick cows) within the first few (2-4) days after treatment.

If cows are being moved to places that have facilities to regularly check cows for mastitis, they can be moved within the first 24 hours after dry off. If such facilities are not available it is best to delay moving them until involution is evident e.g. about 14 days after dry off.

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Key papers

Hill BM, Small JM. Antibiotic residue release at the beginning of lactation following dry cow therapy N.Z. Vet J. 1985; 33:105-107

Boddie RL, Nickerson SC. Dry cow therapy: Effects of method of drug administration on occurrence of intramammary infection. *J. Dairy Sci.* 1986; 69: 253-257